

# RECEIVED-FPSC

# OFFICE OF GENERAL COUNSEL Orlando Utilities Commission

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W. Christopher Browder
Vice President & General Counsel

COMMISSION CLERK

Wayne A. Morris Zoila P. Easterling Carlos L. Woody Terrie L. Tressler

June 4, 2010

Kathleen Plajstek Paralegal

VIA ELECTRONIC FILING AND HAND DELIVERY

Ms. Ann Cole, Director Office of Commission Clerk Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399-0850

> Re: Orlando Utilities Commission's Answers to Staff's First Data Request Docket No. 100161-EG

Dear Ms. Cole:

Enclosed please find an original and seven copies of Orlando Utilities Commission's Notice of Service and Responses to Staff's First Data Request, propounded and served on May 7, 2010.

Thank you for your assistance in connection with this matter.

Sincerely yours,

W. Christopher Browder Vice President & General Counsel

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#### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Approval of )
Demand-Side Management Plan )

(Orlando Utilities Commission )

Docket No. 100161-EG Filed: June 4, 2010

# ORLANDO UTILITIES COMMISSION'S NOTICE OF SERVICE OF RESPONSES TO STAFF'S FIRST DATA REQUEST

Orlando Utilities Commission has this 4<sup>th</sup> day of June, 2010 furnished by electronic and U.S. Mail to Katherine E. Fleming, Senior Attorney, Florida Public Service Commission, 2540 Shumard Oak Blvd., Tallahassee, Florida 32399-0850, its Answers to Staff's First Data Request propounded and served on Orlando Utilities Commission on May 7, 2010.

Respectfully submitted,

W. CHRISTOPHER BROWDER Office of General Counsel Orlando Utilities Commission 100 W. Anderson Street Orlando, FL 32802

(407) 236-9698

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FPSC-COMMISSION CLER-

# **CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that a true and correct copy of the foregoing has been provided by U.S. Mail or E-mail, this 4th day of June, 2010 to the following persons:

| Katherine Fleming, Esq. Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0850 keflemin@psc.state.fl.us | George Cavros, Esq. 120 E. Oakland Park Blvd., Ste. 105 Oakland Park, FL 33334 george@cavros-law.com |
|---|--|
| Roy C. Young, Esq. Tasha O. Buford, Esq. Young vanAssenderp, P.A. 225 South Adams Street, Suite 200 Tallahassee, FL 32301 ryoung@yvlaw.net    | Southern Alliance for Clean Energy<br>P.O. Box 1842<br>Knoxville, TN 37901                           |

Bv:

W. CHRISTOPHER BROWDER

#### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

| In re: | Petition for Approval of        | ) | Docket | No. 100161-EG |
|--------|---------------------------------|---|--------|---------------|
|        | Demand-Side Management Plan )   |   | Filed: | June 4, 2010  |
|        | (Orlando Utilities Commission ) |   |        |               |

# ORLANDO UTILITIES COMMISSION RESPONSES TO STAFF'S FIRST DATA REQUEST

The Orlando Utilities Commission (OUC), by and through its undersigned counsel, provides the following responses to Staff's First Data Request.

### **REQUESTS**

- 1. Please provide, on an individual program basis, the following tables and forms included in the Company's petition. Please provide an electronic copy in Excel (.xls file format).
  - a. Program Participation Values
  - b. Program & Individual Measure Savings @ the Meter
  - c. Program & Individual Measure Savings @ the Generator
  - d. PSC Form CE 1.1 (Financial Assumptions)
  - e. PSC Form CE 2.3 (Total Resource Cost Test)
  - f. PSC Form CE 2.4 (Participant Costs and Benefits)
  - g. PSC Form CE 2.5 (Rate Impact Measure Test)

#### **OUC RESPONSE**

Please refer to Attachment 1a through Attachment 1g, which presents the requested information. Each attachment is in Excel (.xls) format. The requested information is included on a disk accompanying these documents and is organized as follows:

a. Program Participation Values provided in File: Attachment la.xls

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- Individual Measure Savings @ Meter are also located in this same file (cell reference = C13)
- Individual Measure Savings @ Generator are also located in this same file (cell reference = C9)
- b. Program Measure Savings @ Meter are located in File: Attachment 1b.xls (cell reference = C14)
- c. Program Measure Savings @ Generator are located in File: Attachment 1c.xls (cell reference = B14)
- d. PSC Form CE 1.1 (Financial Assumptions) is in File: Attachment 1d.xls
- e. PSC Form CE 2.3 (Total Resource Cost Test) is in File: Attachment le.xls
- f. PSC Form CE 2.4 (Participant Costs and Benefits) is in File: Attachment 1f.xls
- g. PSC Form CE 2.5 (Rate Impact Measure Test) is in File: Attachment 1g.xls

For the following questions (2-5), please provide the name of each program, indicate the customer category of the program, and whether it represents an energy efficiency, demand response, or renewable program. Please include all programs on a single table, adding columns as necessary.

2. Please provide, on an individual program basis, the cumulative projected savings over the period 2010 through 2019. As part of this response, please also provide the percentage of the Commission's Authorized Goals and the Company's proposed demand and energy savings met by the program. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Progran                 | n Information - | Savings |
|-------------------------|-----------------|---------|
| Program Name            | -               |         |
| Customer Category       | (Res/Com/Ind)   |         |
| Program Type            | (EE / DR / RE)  |         |
| <b>Program Estimate</b> |                 |         |
| Summer Demand           | (MW)            |         |
| Winter Demand           | (MW)            |         |
| Annual Energy           | (GWh)           |         |
| % of Commission         | Authorized Goa  | al      |
| Summer Demand           | (%)             |         |
| Winter Demand           | (%)             |         |
| Annual Energy           | (%)             |         |

# **OUC RESPONSE**

Please refer to Table 2a and Table 2b, which present the requested information for residential and commercial/industrial customers, respectively. Electronic versions (in Excel .xls format) are provided on the disk accompanying these documents on the worksheet labeled "Response to 2" in Attachment 2.

|                     |                         |   |   | _   |  |  |  |                           | Table                            | 2a   |  |   |                               |   |                          |                                  |  |                      |                                    |
|---------------------|-------------------------|---|---|---|--|--|--|---------------------------|----------------------------------|--|--|---|-------------------------------|---|--------------------------|----------------------------------|--|----------------------|------------------------------------|
|                     |                         |   |   |   |  | R  | esident  | ial Pro                   | gram In                          | format   | ion - Sav                                | ings  |                               |   |                          |                                  |  |                      |                                    |
| Program Name        |                         | Single<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Single<br>Family<br>Energy<br>Surveys –<br>Video /<br>DVD | Single<br>Family<br>Energy<br>Surveys –<br>Online | Multi<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Multi<br>Family<br>Energy<br>Surveys –<br>Video /<br>DVD | Multi<br>Family<br>Energy<br>Surveys –<br>Online | Duct<br>Repair<br>Rebates | Ceiling<br>Insulation<br>Rebates | Window<br>Film /<br>Solar<br>Screen<br>Rebates | High<br>Performance<br>Window<br>Rebates | Caulking /<br>Weather<br>Stripping<br>Rebates | Wall<br>Insulation<br>Rebates | Cool /<br>Reflective<br>Roof<br>Rebates | Home<br>Energy<br>Fix-Up | Billed<br>Solution<br>Insulation | Efficient<br>Electric<br>Heat<br>Pump<br>Rebates | Gold<br>Ring<br>Home | Compact<br>Fluorescent<br>Lighting |
| Customer Category   | (RES /<br>COM /<br>IND) | Res   | Res   | Res   | Res  | Res  | Res  | Res                       | Res                              | Res  | Res                                      | Res   | Res                           | Res                                     | Res                      | Res                              | Res  | Res                  | Res                                |
| Program Type        | (EE /<br>DR/ RE)        | EE  | EE  | EE  | EE   | EE   | EE   | EE                        | EE                               | EE   | EE                                       | EE  | EE                            | EE                                      | EE                       | EE                               | EE   | EE                   | EE                                 |
| Program Estimate(1) |                         |   |   | N. C.         |  |  | Marine S   | No. of Line               |                                  | 4 2 3 3  |  |   |                               |   | P. System                |                                  |  |                      |                                    |
| Summer Demand       | (MW)                    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.31                      | 0.41                             | 0.03   | 0,40                                     | 0.00  | 0.00                          | 0.04                                    | 0.15                     | 0.08                             | 2.98   | 0.06                 | 1.20                               |
| Winter Demand       | (MW)                    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.41                      | 0.75                             | -0.01  | 0.24                                     | 0.00  | 0.01                          | 0.00                                    | 0.03                     | 0.14                             | 1.66   | 0.06                 | 1.20                               |
| Annual Energy       | (GWh)                   | 5.50  | 2.47  | 1.80  | 1.79   | 0.81   | 0.59   | 0.43                      | 1.07                             | 0.10   | 0.85                                     | 0.01  | 0.00                          | 0.09                                    | 0.14                     | 0.21                             | 6.07   | 0.08                 | 1.75                               |
| % of Commission Au  | thorized Goal           |   |   |   |  |  |  |                           |                                  |  |  |   |                               |   |                          |                                  |  |                      |                                    |
| Summer Demand       | (%)                     | 0.0%  | 0.0%  | 0.0%  | 0.0%   | 0.0%   | 0.0%   | 6.2%                      | 8.2%                             | 0.6%   | 8.0%                                     | 0.0%  | 0.0%                          | 0.8%                                    | 2.9%                     | 1.6%                             | 59.6%  | 1.1%                 | 24.0%                              |
| Winter Demand       | (%)                     | 0.0%  | 0.0%  | 0.0%  | 0.0%   | 0.0%   | 0.0%   | 20.5%                     | 37.5%                            | -0.5%  | 12.0%                                    | 0.0%  | 0.3%                          | 0.0%                                    | 1.6%                     | 7.2%                             | 83.0%  | 3.2%                 | 60.0%                              |
| Annual Energy       | (%)                     | 30.6%   | 13.7%   | 10.0%   | 10.0%  | 4.5%   | 3.3%   | 2.4%                      | 6.0%                             | 0.6%   | 4.7%                                     | 0.0%  | 0.0%                          | 0.5%                                    | 0.8%                     | 1.1%                             | 33.7%  | 0.5%                 | 9.7%                               |
| (1) Represents cun  | nulative projec         | cted savings o  | ver the 2010 t  | hrough 2019 p                                     | period.  |  |  |                           |                                  |  |  |   |                               |   |                          | •                                |  |                      |                                    |

|                     |                   |               |                          | Table 2                                 | b                   |                                       |                            |   |
|---------------------|-------------------|---------------|--------------------------|---|---------------------|---------------------------------------|----------------------------|---|
|                     |                   |               | Commer                   | cial Program Info                       | ormation - Saving   | S                                     |                            |   |
| Program Name        |                   | Energy Audits | Indoor lighting Retrofit | Efficient Electric<br>Heat Pump Rebates | Duct Repair Rebates | Window Film /<br>Solar Screen Rebates | Ceiling Insulation Rebates | Cool / Reflective<br>Roof Rebates       |
| Customer Category   | (RES / COM / IND) | C/I           | C/I                      | C/I                                     | C/I                 | CI                                    | C/I                        | C/I                                     |
| Program Type        | (EE / DR/ RE)     | EE            | EE                       | EE                                      | EE                  | EE                                    | EE                         | EE                                      |
| Program Estimate(1) |                   |               |                          |   |                     |                                       |                            |   |
| Summer Demand       | (MW)              | 0.38          | 6.73                     | 0.10                                    | 0.02                | 0.00                                  | 0.01                       | See Note (2)                            |
| Winter Demand       | (MW)              | 0.38          | 6.73                     | 0.06                                    | 0.03                | 0.00                                  | 0.02                       | See Note (2)                            |
| Annual Energy       | (GWh)             | 2.19          | 30.24                    | 0.19                                    | 0.04                | 0.01                                  | 0.04                       | See Note (2)                            |
| % of Commission Au  | thorized Goal     |               |                          |   |                     |                                       | SELECTION OF SELECTION     | 100000000000000000000000000000000000000 |
| Summer Demand       | (%)               | 5.5%          | 96.2%                    | 1.4%                                    | 0.3%                | 0.0%                                  | 0.2%                       | See Note (2)                            |
| Winter Demand       | (%)               | 5.5%          | 96.2%                    | 0.8%                                    | 0.4%                | 0.0%                                  | 0.3%                       | See Note (2)                            |
| Annual Energy       | (%)               | 12.1%         | 168.0%                   | 1,1%                                    | 0.2%                | 0.0%                                  | 0.2%                       | See Note (2)                            |

<sup>(2)</sup> In the initial offering of the commercial cool/reflective roof program in 2009, OUC had 7 customers participate. One of the participants accounted for more than two thirds of the total square footage of the cool roof/reflective program. Due to uncertainty regarding the likelihood of similar participation in future years, peak demand and energy reductions associated with commercial cool/reflective roof program have not been included in OUC's projected reductions.

3. Please provide, on an individual program basis, the cumulative net present value of expenditures required over the period 2010 through 2019. Please indicate the type of expenditure, separating them into categories including administrative, marketing, equipment, operations & maintenance, and incentives/rebates to customers. As part of this response, please also provide the percentage that each category represents of the total program expenditures. Indicate the first year rate impact of these expenditures, percentage of the total Energy Conservation Cost Recovery Clause for the first year of these expenditures, and any lost revenues associated with the program. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Program Informat                  | ion - Total Cost |  |
|-----------------------------------|------------------|--|
| Program Name                      | F                |  |
| Customer Category                 | (Res/Com/Ind)    |  |
| Program Type                      | (EE / DR / RE)   |  |
| <b>Program Cost (Cumulative N</b> | PV)              |  |
| Administrative                    | (\$)             |  |
| Education, Surveys, Marketing     | (\$)             |  |
| Equipment, Installation, O&M      | (\$)             |  |
| Incentives / Rebates              | (\$)             |  |
| Total Cost                        | (\$)             |  |
| Program Cost (% of Program        |                  |  |
| Administrative                    | (%)              |  |
| Education, Surveys, Marketing     | (%)              |  |
| Equipment, Installation, O&M      | (%)              |  |
| Incentives / Rebates              | (%)              |  |
| Program Rate Impact               |                  |  |
| Residential Rate Impact           | (\$/mo)          |  |
| Percentage of Total ECCR Rate     | (%)              |  |
| Lost Revenues                     | (\$)             |  |

#### **OUC RESPONSE**

Please refer to Table 3a and Table 3b, which present the requested information for residential and commercial/industrial customers, respectively. Electronic versions (in Excel .xls format) are provided on the disk accompanying these documents on the worksheet labeled "Response to 3" in Attachment 2.

|                                  |                         |   |   |   |  |  |  |                           | Table                            | 3a   |  |   |                               |   |                           |                                  |   |                      |                                    |
|----------------------------------|-------------------------|---|---|---|--|--|--|---------------------------|----------------------------------|--|--|---|-------------------------------|---|---------------------------|----------------------------------|---|----------------------|------------------------------------|
|                                  |                         |   |   |   |  | Res  | idential   | Progra                    | am Info                          | rmatio   | n – Tota                                 | 1 Cost  |                               |   |                           |                                  |   |                      |                                    |
| Program Name                     |                         | Single<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Single<br>Family<br>Energy<br>Surveys –<br>Video /<br>DVD | Single<br>Family<br>Energy<br>Surveys –<br>Online | Multi<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Multi<br>Family<br>Energy<br>Surveys –<br>Video /<br>DVD | Multi<br>Family<br>Energy<br>Surveys –<br>Online | Duct<br>Repair<br>Rebates | Ceiling<br>Insulation<br>Rebates | Window<br>Film /<br>Solar<br>Screen<br>Rebates | High<br>Performance<br>Window<br>Rebates | Caufking<br>/ Weather<br>Stripping<br>Rebates | Wall<br>Insulation<br>Rebates | Cool /<br>Reflective<br>Roof<br>Rebates | Home<br>Energy Fix-<br>Up | Billed<br>Solution<br>Insulation | Efficient<br>Electric<br>Heat Pump<br>Rebates | Gold<br>Ring<br>Home | Compact<br>Fluorescent<br>Lighting |
| Customer Category                | (RES /<br>COM /<br>IND) | Res   | Res   | Res   | Res  | Res  | Res  | Res                       | Res                              | Res  | Res                                      | Res   | Res                           | Res                                     | Res                       | Res                              | Res   | Res                  | Res                                |
| Program Type                     | (EE /<br>DR/<br>RE)     | EE  | EE  | EE  | EE   | EE   | EE   | EE                        | EE                               | EE   | EE                                       | EE  | EE                            | EE                                      | EE                        | EE                               | EE  | EE                   | EE                                 |
| Program Cost (Cumul              | lative NPV)             | REPORT OF   | SEE ELL   |   |  |  | MAN HELL   |                           |                                  |  |  |   |                               |   |                           |                                  |   |                      |                                    |
| Administrative                   | (\$)                    | \$2,586,595   | \$243,345   | \$176,927   | \$1,052,933  | \$79,611   | \$57,882   | \$47,397                  | \$113,378                        | \$9,818  | \$83,791                                 | \$870   | \$368                         | \$9,139                                 | \$13,299                  | \$21,668                         | \$557,864                                     | \$8,062              | \$133,529                          |
| Education, Surveys,<br>Marketing | (\$)                    | \$685,856   | \$308,127   | \$224,028   | \$223,527  | \$100,805  | \$73,291   | \$60,014                  | \$143,560                        | \$12,432                                       | \$106,098                                | \$1,101                                       | \$466                         | \$11,571                                | \$16,840                  | \$27,436                         | \$706,375                                     | \$10,209             | \$169,076                          |
| Equipment,<br>Installation, O&M  | (\$)                    | \$0   | \$4,860   | \$159,314   | \$0  | \$12,044   | \$68,277   | \$0                       | \$0                              | \$0  | \$0                                      | \$0   | \$0                           | \$0                                     | \$0                       | \$0                              | \$0   | \$0                  | \$50,867                           |
| Incentives/Rebates               | (\$)                    | \$0   | \$0   | \$0   | \$0  | \$0  | \$0  | \$153,624                 | \$170,693                        | \$68,277                                       | \$199,142                                | \$12,897                                      | \$15,931                      | \$14,793                                | \$218,548                 | \$32,621                         | \$1,131,885                                   | \$31,863             | \$0                                |
| Total Cost                       | (\$)                    | \$3,272,451   | \$556,333   | \$560,269   | \$1,276,460  | \$192,460  | \$199,451  | \$261,035                 | \$427,631                        | \$90,527                                       | \$389,031                                | \$14,867                                      | \$16,766                      | \$35,503                                | \$248,687                 | \$81,725                         | \$2,396,124                                   | \$50,134             | \$353,471                          |
| Program Cost (% of P             | Program)                | Made and the  |   |   |  |  |  |                           |                                  |  |  |   |                               |   |                           |                                  | 222   | 16%                  | 38%                                |
| Administrative                   | (%)                     | 79%   | 44%   | 32%   | 82%  | 41%  | 29%  | 18%                       | 27%                              | 11%  | 22%                                      | 6%  | 2%                            | 26%                                     | 5%                        | 27%                              | 23%   | -                    |                                    |
| Education, Surveys,<br>Marketing | (%)                     | 21%   | 55%   | 40%   | 18%  | 52%  | 37%  | 23%                       | 34%                              | 14%  | 27%                                      | 7%  | 3%                            | 33%                                     | 7%                        | 34%                              | 29%   | 20%                  | 48%                                |
| Equipment,<br>Installation, O&M  | (%)                     | 0%  | 1%  | 28%   | 0%   | 6%   | 34%  | 0%                        | 0%                               | 0%   | 0%                                       | 0%  | 0%                            | 0%                                      | 0%                        | 0%                               | 0%  | 0%                   | 14%                                |
| Incentives/Rebates               | (%)                     | 0%  | 0%  | 0%  | 0%   | 0%   | 0%   | 59%                       | 40%                              | 75%  | 51%                                      | 87%   | 95%                           | 42%                                     | 88%                       | 40%                              | 47%   | 64%                  | 0%                                 |
| Program Rate Impact              |                         |   |   |   |  |  |  |                           |                                  |  |  |   | 1                             |   |                           |                                  |   |                      |                                    |
| Residential Rate<br>Impact       | (\$/mo)                 | \$0.14  | \$0.03  | \$0.03  | \$0.05   | \$0.01   | \$0.01   | \$0.01                    | \$0.02                           | \$0.00   | \$0.02                                   | \$0.00  | \$0.00                        | \$0.00                                  | \$0.01                    | \$0.00                           | \$0.11  | \$0,00               | \$0.02                             |
| Percentage of Total<br>ECCR Rate | (%)                     | N/A   | N/A   | N/A   | N/A  | N/A  | N/A  | N/A                       | N/A                              | N/A  | N/A                                      | N/A   | N/A                           | N/A                                     | N/A                       | N/A                              | N/A   | N/A                  | N/A                                |
| Lost Revenues                    | (\$)                    | \$38,397  | \$17,250  | \$12,542  | \$12,514   | \$5,644  | \$4,103  | \$3,360                   | \$8,037                          | \$696  | \$5,940                                  | \$62  | \$26                          | \$648                                   | \$943                     | \$1,536                          | \$39,546                                      | \$572                | \$9,466                            |

|                                  |                    |               |                          | Table 3b                                |                     |                                       |  |                                   |
|----------------------------------|--------------------|---------------|--------------------------|---|---------------------|---------------------------------------|--|-----------------------------------|
|                                  |                    |               | Commercial I             | Program Informa                         | tion - Total Cost   |                                       |  |                                   |
| Program Name                     |                    | Energy Audits | Indoor lighting Retrofit | Efficient Electric<br>Heat Pump Rebates | Duct Repair Rebates | Window Film /<br>Solar Screen Rebates | Ceiling Insulation Rebates   | Cool / Reflective<br>Roof Rebates |
| Customer Category                | (RES / COM / IND)  | СЛ            | C/I                      | C/I                                     | C/I                 | C/I                                   | C/I  | C/I                               |
| Program Type                     | (EE / DR/ RE)      | EE            | EE                       | EE                                      | EE                  | EE                                    | EE   | EE                                |
| Program Cost (Cumulative NPV)    | Market States Sent |               |                          |   |                     |                                       | <b>会体系是2007是2008的企</b>   |                                   |
| Administrative                   | (\$)               | \$930,841     | \$788,020                | \$5,768                                 | \$106               | \$161                                 | \$1,067  | \$281,770                         |
| Education, Surveys, Marketing    | (\$)               | \$127.339     | \$1,706,265              | \$12,490                                | \$230               | \$349                                 | \$2,310  | \$610,104                         |
| Equipment, Installation, O&M     | (\$)               | \$0           | \$0                      | \$0                                     | \$0                 | \$0                                   | \$0  | \$0                               |
| Incentives/Rebates               | (\$)               | \$0           | \$0                      | \$38,690                                | \$1,138             | \$7,086                               | \$5,310  | \$229,237                         |
| Total Cost                       | (\$)               | \$1,058,180   | \$2,494,284              | \$56,948                                | \$1,474             | \$7,596                               | \$8,687  | \$1,121,111                       |
| Program Cost (% of Program)      |                    |               |                          |   |                     |                                       |  |                                   |
| Administrative                   | (%)                | 88%           | 32%                      | 10%                                     | 7%                  | 2%                                    | 12%  | 25%                               |
| Education, Surveys, Marketing    | (%)                | 12%           | 68%                      | 22%                                     | 16%                 | 5%                                    | 27%  | 54%                               |
| Equipment, Installation, O&M     | (%)                | 0%            | 0%                       | 0%                                      | 0%                  | 0%                                    | 0%   | 0%                                |
| Incentives/Rebates               | (%)                | 0%            | 0%                       | 68%                                     | 77%                 | 93%                                   | 61%  | 20%                               |
| Program Rate Impact              |                    |               |                          |   |                     |                                       | the state of the s |                                   |
| Residential Rate Impact          | (\$/mo)            | N/A           | N/A                      | N/A                                     | N/A                 | N/A                                   | N/A  | N/A                               |
| Percentage of Total ECCR<br>Rate | (%)                | N/A           | N/A                      | N/A                                     | N/A                 | N/A                                   | N/A  | N/A                               |
| Lost Revenues                    | (\$)               | \$13,785      | \$184,711                | \$1,352                                 | \$25                | \$38                                  | \$250  | \$66,047                          |

4. Please provide, on an individual program basis, the results of the E-TRC, E-RIM, and Participants Tests. Include the cumulative net present values of all benefits and costs. As part of this response, please provide the payback period for each program. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Program Inform      | ation - Cost Effec | ctiveness |
|---------------------|--------------------|-----------|
| Program Name        | -                  |           |
| Customer Category   | (Res/Com/Ind)      |           |
| Program Type        | (EE / DR / RE)     |           |
| E-TRC Test Resul    | ts                 |           |
| Total Benefits      | (\$)               |           |
| Total Costs         | (\$)               |           |
| Ratio               | -                  |           |
| E-RIM Test Resul    | ts                 |           |
| Total Benefits      | (\$)               |           |
| Total Costs         | (\$)               |           |
| Ratio               | =".                |           |
| Participants Test l | Results            |           |
| Total Benefits      | (\$)               |           |
| Total Costs         | (\$)               |           |
| Ratio               | -                  |           |
| Payback Period      |                    |           |
| E-TRC Test          | (Yrs)              |           |
| E-RIM Test          | (Yrs)              |           |
| Participants Test   | (Yrs)              |           |

#### **OUC RESPONSE**

Please refer to Table 4a and Table 4b, which present the requested information for residential and commercial/industrial customers, respectively. Electronic versions (in Excel .xls format) are provided on the disk accompanying these documents on the worksheet labeled "Response to 4" in Attachment 2.

OUC's Commission-approved DSM goals, as set forth in Docket No. 080412-EG, were based on historical accomplishments related to OUC's existing DSM programs. For purposes of the DSM Plan, OUC performed cost-effectiveness evaluations using TRC and RIM, and did not perform economic analysis using E-TRC or E-RIM. Therefore, information presented in response to this request reflects TRC and RIM.

|                   |                      |   |  |   |  | TCOSTGO  | iitiui i i                                       | ogium i                   | IIIOIIII                         | tion (   | JOUR LIII                                | 30011011                                      | •00                           |   |                          |                                  |   |                   |                                    |
|-------------------|----------------------|---|--|---|--|--|--|---------------------------|----------------------------------|--|--|---|-------------------------------|---|--------------------------|----------------------------------|---|-------------------|------------------------------------|
| Program<br>Name   |                      | Single<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Single<br>Family<br>Energy<br>Surveys –<br>Video / DVD | Single<br>Family<br>Energy<br>Surveys –<br>Online | Multi<br>Family<br>Energy<br>Surveys –<br>Walk-<br>Through | Multi<br>Family<br>Energy<br>Surveys –<br>Video /<br>DVD | Multi<br>Family<br>Energy<br>Surveys –<br>Online | Duct<br>Repair<br>Rebates | Ceiling<br>Insulation<br>Rebates | Window<br>Film /<br>Solar<br>Screen<br>Rebates | High<br>Performance<br>Window<br>Rebates | Caulking<br>/ Weather<br>Stripping<br>Rebates | Wall<br>Insulation<br>Rebates | Cool /<br>Reflective<br>Roof<br>Rebates | Home<br>Energy<br>Fix-Up | Billed<br>Solution<br>Insulation | Efficient<br>Electric Heat<br>Pump<br>Rebates | Gold Ring<br>Home | Compact<br>Fluorescent<br>Lighting |
| Customer          | (RES / COM /<br>IND) | Res   | Res  | Res   | Res  | Res  | Res  | Res                       | Res                              | Res  | Res                                      | Res   | Res                           | Res                                     | Res                      | Res                              | Res   | Res               | Res                                |
| Program<br>Type   | (EE / DR/ RE)        | EE  | EE   | EE  | EE   | EE   | EE   | EE                        | EE                               | EE   | EE                                       | EE  | EE                            | EE                                      | EE                       | EE                               | EE  | EE                | EE                                 |
| TRC Test Res      | ults                 |   |  |   |  |  |  |                           |                                  |  |  |   |                               |   |                          |                                  |   |                   |                                    |
| Total<br>Benefits | (2010 NPV \$)        | \$877,583   | \$394,345  | \$286,638   | \$286,108  | \$128,964  | \$93,822   | \$107,225                 | \$221,937                        | \$19,946                                       | \$186,130                                | \$1,409                                       | \$786                         | \$20,039                                | \$39,747                 | N/A <sup>(1)</sup>               | \$1,250,465                                   | \$19,985          | \$12,781                           |
| Total Costs       | (2010 NPV \$)        | \$3,533,968   | \$625,959  | \$604,998   | \$1,378,876  | \$207,804  | \$215,500  | \$601,608                 | \$1,314,259                      | \$167,914                                      | \$1,517,566                              | \$26,768                                      | \$124,871                     | \$90,009                                | \$73,185                 | N/A <sup>(1)</sup>               | \$18,058,428                                  | \$19,733          | \$5,606                            |
| Ratio             |                      | 0.25  | 0.63   | 0.47  | 0.21   | 0.62   | 0.44   | 0.18                      | 0.17                             | 0.12   | 0.12                                     | 0.05  | 0.01                          | 0.22                                    | 0.54                     | 0.17(1)                          | 0.07  | 1.01              | 2.28                               |
| RIM Test Res      | ults                 |   |  |   |  | Page 1925  |  |                           | Section 1984                     |  |  |   | NO THE N                      |   |                          |                                  |   |                   |                                    |
| Total             | (2010 NPV \$)        | \$877,583   | \$394,345  | \$286,638   | \$286,108  | \$128,964  | \$93,822   | \$107,225                 | \$221,937                        | \$19,946                                       | \$186,130                                | \$1,409                                       | \$786                         | \$20,039                                | \$39,747                 | N/A <sup>(1)</sup>               | \$1,250,465                                   | \$19,985          | \$12,781                           |

\$900,142

\$1,108,244

\$1,036,759

1.07

N/A

N/A

0.25

\$131,963

\$147,064

\$143,882

1.02

N/A

N/A

0.15

\$759,800

\$1,696,108

\$1,312,489

0.24

1.29

N/A

N/A

\$18,231

0.08

\$23,494

\$24,639

0.95

N/A

N/A

\$17,722

\$54,011

\$123,969

0.44

N/A

N/A

0.04

\$76,251

\$195,199

\$67.642

2.89

N/A

N/A

0.26

\$320,677

\$286,797

\$40,635

7.06

N/A

N/A

0.12

\$4,873,951

\$9,976,416

\$16,693,046

0.26

0.60

N/A

N/A

N/A

N/A(1

0.25(1)

N/A(1

N/A

1.00(1)

N/A

N/A(1)

N/A(1

\$85,241

0.23

\$65,508

02

1.00

10

N/A

\$44,417

\$747,437

0.29

\$0

1.00

N/A

Table 4a Residential Program Information – Cost Effectiveness

N/A 9 9 N/A N/A Test OUC's Billed Solutions Insulation program is essentially identical to the Ceiling Insulation Rebates program, except that customer's participating in Billed Solutions Insulation may pay for the insulation on their monthly utility bills for up to 1 year (for amounts less than \$500) or up to 2 years (for any amount above \$500) interest-free with no money down. In addition, the customer will receive a \$100 rebate to be deducted from the financed amount. For purposes of OUC's 2010 DSM Plan, it has been assumed that the cost-effectiveness results for Billed Solutions Insulation would be similar to those for the Ceiling Insulation Rebates

(2010 NPV \$)

(2010 NPV \$)

(2010 NPV \$)

(Yrs)

(Yrs)

Benefits

Ratio

Total

Benefits

Ratio

Total Costs

TRC Test

RIM Test

Participants

Payback Period

Total Costs

Participants Test Results

0.15

\$0

1.00

N/A

N/A

\$5,889,95

\$2,355,984

\$1,684,627

\$1,058,669

0.23

\$0

1.00

N/A

N/A

0.21

\$0

1.00

N/A

N/A

\$769,517

\$1,374,515

0.13

\$0

1.00

N/A

N/A

\$768,093

\$2,146,968

\$554,025

\$346,220

0.23

\$0

1.00

N/A

N/A

0.20

\$0.

1.00

N/A

N/A

\$446,591

\$330,584

\$485,601

0.68

N/A

N/A

0.24

\$467,377

\$251,877

Analysis of Tables A-1 and A-2 of OUC's 2010 DSM plan indicate that there are programs for which Participant Test results are indicated as "1.0 (Infinite)." Such results indicate that there are either no costs for the participating customer (i.e. residential energy surveys, commercial energy audits, residential Gold Ring, and residential compact fluorescent lighting), or all costs are carried on the participating customers' utility bills such that benefits from participating in the program are used to offset the upfront costs that OUC pays, resulting in no out-of-pocket costs to the participating customer (i.e. commercial indoor lighting retrofits). For purposes of this table, results for these programs are presented as "1.00.

Payback period for each program represents the year in which program cumulative discounted net benefits first become positive. If this does not occur during the 10-year evaluation period, payback period is indicated as "NA"

|                               |                          |                                       |   | Table 4b                                |   |                                       |   |                                    |
|-------------------------------|--------------------------|---------------------------------------|---|---|---|---------------------------------------|---|------------------------------------|
|                               |                          |                                       | Commercial Program Information - Cost Effectiveness | ram Information                         | <ul> <li>Cost Effective</li> </ul>      | ıess                                  |   | Cool / Reflective                  |
| Program Name                  |                          | Energy Audits                         | Indoor lighting Retrofit                            | Efficient Electric<br>Heat Pump Rebates | Duct Repair Rebates                     | Window Film /<br>Solar Screen Rebates | Ceiling Insulation Rebates                      | Roof Rebates                       |
| Customer Category             | (RES / COM / IND)        | C/1                                   | CI  | CI                                      | 5 1                                     | 5 5                                   | EE  | EE                                 |
| Program Type                  | (EE / DR/ RE)            | EE                                    | EE  | EE                                      | FE                                      | EE                                    |   |                                    |
| TRC Test Results              |                          |                                       |   |   |   | 61 042                                | \$8.123   | \$2,012,047                        |
| Total Benefits                | (2010 NPV \$)            | \$396,760                             | \$5,665,122   | \$42,738                                | \$9,103                                 | 010,16                                | 835 901   | \$4,249,779                        |
| Total Costs                   | (2010 NPV \$)            | \$1,142,840                           | \$3,078,660   | \$623,647                               | \$39,576                                | 1/4,028                               | 0.53  | 0.47                               |
| Ratio                         |                          | 0.35                                  | 1.84  | 0.07                                    | 0.23                                    | 0.05                                  | Corre   |                                    |
| RIM Test Results              |                          |                                       |   |   |   | 31048                                 | \$8.123   | \$2,012,047                        |
| Total Benefits                | (2010 NPV \$)            | \$396,760                             | \$8,305,881   | \$42,738                                | \$9,103                                 | 01000                                 | 833613  | \$4,991,037                        |
| Total Costs                   | (2010 NPV \$)            | \$1,838,854                           | \$13,184,430  | \$138,835                               | \$32,350                                | 517.68                                | 0.34  | 0.40                               |
| Ratio                         |                          | 0.22                                  | 0.63  | 0.31                                    | 0.28                                    | 0.11                                  |   |                                    |
| Participants Test (1)         |                          |                                       |   |   | THE COLD                                | \$14.081                              | \$35.074  | \$3,286,555                        |
| Total Benefits                | (2010 NPV S)             | \$696,014                             | \$10,105,771  | \$325,653                               | \$28,745                                | \$10.00                               | \$32,255  | \$4,103,905                        |
| Total Costs                   | (2010 NPV \$)            | 08                                    | 80  | \$603,929                               | \$35,970                                | 027,718                               | 1.09  | 0.80                               |
| Ratio                         | 1                        | 1.00                                  | 1.00  | 0.54                                    | 0.80                                    | 17.0                                  |   |                                    |
| Payback Period <sup>(2)</sup> |                          |                                       |   |   |   | 4/N                                   | N/A   | N/A                                |
| TRC Test                      | (Yrs)                    | N/A                                   | 7   | N/A                                     | VN                                      | N/A                                   | A/X   | N/A                                |
| RIM Test                      | (Yrs)                    | N/A                                   | N/A   | N/A                                     | K/X                                     | AUX                                   | œ   | V/X                                |
| its Test                      | (Yrs)                    | -                                     | 1   | N/A                                     | N/A                                     | Y/N                                   | (Yrs) 1 N/A | nercial energy audits, residential |
|                               | 1100 0100 101100 0 1 1 1 | I I I I I I I I I I I I I I I I I I I | C Link Bostiniant Toot results and                  | Such respect as "10 (Infinite) " Such r | esults indicate that there are either n | o costs for the participating custome | (I.c. Icaldellina vile-6,                       | in metomor (i.e. commercial        |

Analysis of Tables A-1 and A-2 of OUC's 2010 DSM plan indicate that there are programs for which Participant Test results are indicated as "1.0 (Infinite)" Such results indicate that there are either no coasts for the participating customer (i.e., residential energy surveys, commercial formal fo

5. Please provide, for each program, a list of measures associated with that program. For programs with varying incentives by device or installation, please represent each as a separate 'measure' within the program. For Audit Programs, assume that any equipment provided or installed (such as Compact Fluorescent Light Bulbs) are a separate 'measure.'

#### **OUC RESPONSE**

The only program included in OUC's 2010 DSM Plan that is described as consisting of multiple measures is the *Home Energy Surveys* program. As presented in OUC's 2010 DSM Plan, the program consists of the following measures: the Residential Energy Walk-Through Survey, the Residential Energy Survey DVD, and the On-Line Energy Survey.

Although the *Home Energy Surveys* program is described as consisting of multiple measures, OUC's 2010 DSM Plan reflects savings and costs associated with each measure individually (the 2010 DSM Plan actually includes analysis of each measure separately for both single- and multifamily homes), rather than embedding the three measures as a single program.

For the following questions (6-9), only consider those programs which feature multiple measures. Please provide the name of each measure, and indicate with which program it is associated. Include all measures on a single table, adding columns as necessary.

# **OUC RESPONSE TO REQUESTS 6 THROUGH 9**

Please see the response to Request No. 5. Requests Nos. 6 through 9 are not applicable to OUC.

6. Please provide, for each measure identified by the criteria above, the cumulative projected savings over the period 2010 through 2019. As part of this response, please also provide the percentage of the Commission's Authorized Goals and the Company's proposed demand and energy savings met by the measure. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Measure Information       | - Savings |
|---------------------------|-----------|
| Component Measure Name    | -         |
| Program Name with Measure | 6-        |
| Savings Associated with M | easure    |
| Summer Demand             | (MW)      |
| Winter Demand             | (MW)      |
| Annual Energy             | (GWh)     |
| % of Program              |           |
| Summer Demand             | (%)       |
| Winter Demand             | (%)       |
| Annual Energy             | (%)       |
| % of Commission Authoriz  | zed Goal  |
| Summer Demand             | (%)       |
| Winter Demand             | (%)       |
| Annual Energy             | (%)       |

7. Please provide, for each measure identified by the criteria above, the cumulative net present value of expenditures required over the period 2010 through 2019. Please indicate the type of expenditure, separating them into categories including administrative, marketing, equipment, operations & maintenance, and incentives/rebates to customers. As part of this response, please also provide the percentage that each category represents of the total measure expenditures. Indicate the first year rate impact of these expenditures, percentage of the total Energy Conservation Cost Recovery Clause for the first year of these expenditures, and the lost revenues associated with the measure. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Measure Information - T       | otal Costs |
|-------------------------------|------------|
| Component Measure Name        | -          |
| Program Name with Measure     | -          |
| Measure Cost (Cumulative N.   | PV)        |
| Administrative                | (\$)       |
| Education, Surveys, Marketing | (\$)       |
| Equipment, Installation, O&M  | (\$)       |
| Incentives / Rebates          | (\$)       |
| Total Cost                    | (\$)       |
| Measure Cost (% of Measure    | )          |
| Administrative                | (%)        |
| Education, Surveys, Marketing | (%)        |
| Equipment, Installation, O&M  | (%)        |
| Incentives / Rebates          | (%)        |
| Measure Rate Impact           |            |
| Residential Rate Impact       | (\$/mo)    |
| Percentage of Total ECCR Rate | (%)        |
| Lost Revenues                 | (\$)       |

8. Please provide, for each measure identified by the criteria above, the results of the E-TRC, E-RIM, and Participants Tests. Include the cumulative net present values of all benefits and costs. As part of this response, please also provide the payback period for each measure. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Measure Information - Co  | St Effective | ness |
|---------------------------|--------------|------|
| Component Measure Name    | -            |      |
| Program Name with Measure | -            |      |
| E-TRC Test Results        |              |      |
| Total Benefits            | (\$)         |      |
| Total Costs               | (\$)         |      |
| Ratio                     |              |      |
| E-RIM Test Results        |              |      |
| Total Benefits            | (\$)         |      |
| Total Costs               | (\$)         |      |
| Ratio                     | -            |      |
| Participants Test Results |              |      |
| Total Benefits            | (\$)         |      |
| Total Costs               | (\$)         |      |
| Ratio                     | -            |      |
| Payback Period            |              |      |
| E-TRC Test                | (Yrs)        |      |
| E-RIM Test                | (Yrs)        |      |
| Participants Test         | (Yrs)        |      |

9. Please provide, for each measure identified by the criteria above, the incentive rate provided and the estimated customer equipment cost. Indicate the amount of non-recurring expenses by category, including administrative, equipment, and incentives/rebates to customers. As part of this response, please also provide the rate for recurring expenses by category. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Measure Information -        | Per Customer Costs |
|------------------------------|--------------------|
| Component Measure Name       | -                  |
| Program Name with Measure    | -                  |
| Measure Incentives & Dura    | ation              |
| Incentive / Rebate Rate      |                    |
| Customer Equipment Cost      | (\$)               |
| Estimated Life of Measure    | (Years)            |
| Non-Recurring Measure E      | xpenses            |
| Administrative               | (\$/Customer)      |
| Equipment                    | (\$/Customer)      |
| Incentive / Rebate (Typical) | (\$/Customer)      |
| Recurring Measure Expens     | ses                |
| Administrative               | (\$/Customer/Year) |
| Equipment                    | (\$/Customer/Year) |
| O&M                          | (\$/Customer/Year) |
| Incentive / Rebate (Typical) | (\$/Customer/Year) |

10. Please complete the following table regarding the Company's Avoided Unit selected for purposes of program development and cost-effectiveness testing. Include the unit's seasonal capacity, technology type, primary fuel, and commercial in-service date. Please also provide financial data sufficient to calculate the avoided cost of the unit, including its capital and operations & maintenance cost. In addition, please indicate the avoided energy rate utilized for energy savings in programs. Please complete the

table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

|                      | Avoided Un     | it Information |  |
|----------------------|----------------|----------------|--|
| Plant Name           |                | -              |  |
| Unit #               |                | -              |  |
| Technical In         | formation      |                |  |
| Compositor           | Summer         | (MW)           |  |
| Capacity             | Winter         | (MW)           |  |
| Technology T         | ype            | <del>-</del>   |  |
| Primary Fuel         |                | <u> </u>       |  |
| Commercial I         | n-service Date | 2              |  |
| Performance          | Data           |                |  |
| Capacity Fact        | tor            | (%)            |  |
| Heat Rate            |                | (BTU/kWh)      |  |
| Financial Da         | ta             |                |  |
| Book Life            |                | (Years)        |  |
| Total Installed Cost |                | (\$/kW)        |  |
| Fixed O&M Cost       |                | (\$/kW-year)   |  |
| Variable O&M         |                | (\$/MWh)       |  |
| Avoided Fue          | l              |                |  |
| Avoided Ener         | rgy Rate       | (\$/MWh)       |  |

## **OUC RESPONSE**

The cost-effectiveness evaluations included in OUC's 2010 DSM Plan are based on the period 2010 through 2019, consistent with the period for which the Commission approved DSM goals for OUC (Docket No. 080412-EG). During this time frame, OUC's only avoided unit is a simple cycle combustion turbine in 2018. Table 10 presents the requested avoided unit information for this avoided unit. An electronic version (in Excel .xls format) is provided on the disk accompanying these documents on the worksheet labeled "Response to 10" in Attachment 2.

|            |                      | Table 10              |                                 |
|------------|----------------------|-----------------------|---------------------------------|
|            | 9                    | Avoided Unit Informa  | ation                           |
| Plant Nan  | ne                   |                       | 7FA Combustion Turbine          |
| Unit No.   |                      |                       |                                 |
| Technica   | l Information        |                       |                                 |
|            | Summer               | (MW)                  | 142.1                           |
| Capacity   | Winter               | (MW)                  | 187.9                           |
|            | Average              | (MW)                  | 157.6                           |
| Technolog  | ду Туре              |                       | Simple Cycle Combustion Turbine |
| Primary F  | Fuel                 |                       | Natural Gas                     |
| Commerc    | eial In-Service Date |                       | 06/2018                         |
| Performa   | ance Data            |                       |                                 |
| Capacity   | Factor               | (%) (1)               | 3                               |
| Heat Rate  | ;                    | (Btu/kWh) (2)         | 10,888                          |
| Financia   | l Data               |                       |                                 |
| Book Life  | e                    | (years)               | 20                              |
| Total Inst | alled Cost           | (\$/kW) (3)           | \$1,130                         |
| Fixed O&   | zM Cost              | (2009 \$/kW-year) (3) | 8.60                            |
| Variable   | O&M                  | (2009 \$/MWh) (3)     | 15.90                           |
| Avoided    | Fuel                 |                       |                                 |
| Avoided    | Energy Rate          | (\$/MWh) (4)          | 126                             |

<sup>(1)</sup> Capacity factor shown is average capacity factor for 2018 and 2019, which are the years in which the avoided unit is in service.

11. Please complete the following table regarding the Company's projected customer rates for non-fuel energy rates and demand, that are utilized in the Company's cost-effectiveness tests. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Projected Rate Information |             |  |
|----------------------------|-------------|--|
| Residential                |             |  |
| Non-Fuel Energy Rate       | (cents/kWh) |  |
| Escalation Rate            | (%)         |  |
| Commercial                 |             |  |
| Non-Fuel Energy Rate       | (cents/kWh) |  |
| Escalation Rate            | (%)         |  |
| Demand Rate                | (\$/kW-mo)  |  |
| Escalation Rate            | (%)         |  |

<sup>(2)</sup> Heat rate represents full load, net plant heat rate (higher heating value) at average ambient conditions.

<sup>(3)</sup> Costs per kW, kW-year, and MWh correspond to unit's average ambient rating.

<sup>(4)</sup> Avoided energy rate is calculated as the average fuel cost per MWh for the avoided unit during 2018 and 2019, plus the variable O&M cost. Value is expressed in 2009 dollars.

# **OUC RESPONSE**

Please refer to Table 11, which presents the requested information. An electronic version (in Excel .xls format) is provided on the disk accompanying these documents on the worksheet labeled "Response to 11" in Attachment 2.

| Table 11 Projected Rate Information |             |       |  |
|-------------------------------------|-------------|-------|--|
| Residential                         |             |       |  |
| Non-Fuel Energy Rate                | (cents/kWh) | 8.536 |  |
| Escalation Rate                     | (%)         | 2.0   |  |
| Commercial                          |             |       |  |
| Non-Fuel Energy Rate                | (cents/kWh) | 3.586 |  |
| Escalation Rate                     | (%)         | 2.0   |  |
| Demand Rate                         | (\$/kW-mo)  | 7.98  |  |
| Escalation Rate                     | (%)         | 2.5   |  |

12. Please complete the following table regarding the Company's estimations of line loss utilized in the estimation of generator savings. As part of this response, please indicate the values used for residential and commercial customers separately. Please complete the table below and provide an electronic copy in Excel (.xls file format) with the hard copy response.

| Line Loss Values  |     |  |
|-------------------|-----|--|
| Residential       |     |  |
| Energy Percentage | (%) |  |
| Demand Percentage | (%) |  |
| Commercial        |     |  |
| Energy Percentage | (%) |  |
| Demand Percentage | (%) |  |

#### **OUC RESPONSE**

Please refer to Table 12, which presents the requested information. An electronic version (in Excel .xls format) is provided on the disk accompanying these documents on the worksheet labeled "Response to 12" in Attachment 2.

| Table 12<br>Line Loss Values |     |     |
|------------------------------|-----|-----|
| Residential                  |     |     |
| Energy Percentage            | (%) | 3.9 |
| Energy Percentage            | (%) | 3.9 |
| Commercial                   |     |     |
| Energy Percentage            | (%) | 3.9 |
| Energy Percentage            | (%) | 3.9 |

13. Please describe how costs associated with CO<sub>2</sub> Emissions are included in the Company's cost-effectiveness tests. As part of this response, please provide the annual cost assumed per ton of carbon dioxide equivalent, and the projected emission rate per megawatt-hour. Please indicate if there is any difference between these values and the values provided in the Commission's review of numeric conservation goals dockets.

# **OUC RESPONSE**

OUC's Commission-approved DSM goals, as set forth in Docket No. 080412-EG, were based on historical accomplishments related to OUC's existing DSM programs. The cost-effectiveness evaluations presented in OUC's 2010 DSM Plan do not reflect costs associated with CO<sub>2</sub> emissions.

14. Please describe how the savings from conducting energy audits are calculated. As part of this response, please provide the percentage difference between savings associated with any equipment provided or installed (such as Compact Fluorescent Light Bulbs), and other sources.

### **OUC RESPONSE**

The savings for Energy Surveys are based on the methodology used in the Annual Conservation Reports OUC submits to the PSC every year. The main assumption is half of the single family home (SFH) customers that participate in OUC's walk-through energy survey will adjust their thermostat 1 degree to conserve. It is estimated that a 1 degree adjustment will reduce a customer's heating and cooling consumption by 8 percent. Furthermore, it is estimated that a customer's heating and cooling cost are about 50 percent of their electric use. The typical residential electric consumption was estimated based on 2006 OUC and St. Cloud FRCC Form 4. This level of consumption for a SFH is conservative due to the fact that OUC's residential class is comprised of more than 45 percent multi-family dwellings.

The savings from a video or on-line conservation survey were estimated to produce half of the savings of a walk-through energy survey.

The savings from a walk-through energy survey in a multi-family dwelling used a similar methodology as the Single Family Home except for the overall consumption was reduced to 10,000 kWh/yr. Again, half of the savings were assumed for the multi-family video or on-line energy surveys.

The methodology is demonstrated below, with calculated values representative of energy savings at the customers' meter:

| Savings Estimate for SFH              |        |   |
|---------------------------------------|--------|---|
| kWh/yr usage                          | 13,135 | Based on 2006 OUC & STC FRCC Form 4   |
| A/C & heat portion                    | 50%    | 50% of the annual usage is related to a/c and heating.                                    |
| Savings per degree                    | 8%     | Assume a 1 degree savings.  Half of the people will adjust their thermostat 1 degree to   |
| Penetration rate                      | 50%    | conserve after receiving this survey.   |
| kWh Savings/yr                        | 263    |   |
| R Survey Video and DVDs               | 131    | Estimated 1/2 of the value of a Walk-Through  |
| R Survey On-line                      | 131    | Estimated 1/2 of the value of a Walk-Through  |
| Savings Estimate for Multi-<br>family |        |   |
| kWh/yr usage                          | 10,000 |   |
| A/C & heat portion                    | 50%    | 50% of the annual usage is related to a/c and heating.                                    |
| Savings per degree                    | 8%     | Assume a 1 degree savings.<br>Half of the people will adjust their thermostat 1 degree to |
| Penetration rate                      | 50%    | conserve after receiving this survey.   |
| kWh Savings/yr                        | 200    |   |
| R Survey Video and DVDs               | 100    | Estimated 1/2 of the value of a Walk-Through  |
| R Survey On-line                      | 100    | Estimated 1/2 of the value of a Walk-Through  |

15. Please explain or describe any tax rebates that may be available to customers during the 2010 through 2019 period for installation of any measures discussed in response to questions 6-9 above, including energy efficiency and customer-owned renewable generation. As part of this response, please include the associated program name, specific measure, and expiration dates as appropriate for each tax rebate, and whether the rebate was included in cost-effectiveness tests.

#### **OUC RESPONSE**

OUC has no measures discussed in response to Request Nos. 6 through 9. However, tax credits were considered in the cost-effectiveness evaluations presented in OUC's 2010 DSM plan. The types of energy efficiency improvements for which tax credits were considered were based on the US Environmental Protection Agency's / US Department of Energy's Energy Star program website, which provided guidance on consumer energy efficiency improvements that may qualify for tax rebates (<a href="http://www.energystar.gov/index.cfm?c=tax\_credits.tx\_index">http://www.energystar.gov/index.cfm?c=tax\_credits.tx\_index</a>). Information from this website has been printed and included as Attachment 3 on the disk provided. It has been assumed that the tax credits listed as available at the time the analyses was performed will be available for all years of the study period (2010 through 2019). Table 15 provides a summary of the programs for which tax credits were considered in the cost-effectiveness analysis, and the amount of tax credit reflected.

| Table 15   |                                     |  |  |
|--|-------------------------------------|--|--|
| Tax Credits Considered in Cost-Effectiveness Analysis      |                                     |  |  |
| Program Name   | Tax Credit Amount (per Participant) |  |  |
| Residential Ceiling Insulation Rebates                     | \$270                               |  |  |
| Residential Window Film / Solar Screen Rebates             | \$60                                |  |  |
| Residential High Performance Windows Rebates               | \$1,500                             |  |  |
| Residential Caulking and Weather Stripping Rebates         | \$30                                |  |  |
| Residential Wall Insulation Rebates                        | \$665                               |  |  |
| Residential Billed Solution Insulation Program             | \$270                               |  |  |
| Residential Cool / Reflective Roof Rebates                 | \$1,500                             |  |  |
| Residential Efficient Electric Heat Pump Rebates – SEER 15 | \$1,500                             |  |  |
| Residential Efficient Electric Heat Pump Rebates – SEER 16 | \$1,500                             |  |  |
| Residential Efficient Electric Heat Pump Rebates – SEER 17 | \$1,500                             |  |  |
| Residential Efficient Electric Heat Pump Rebates – SEER 18 | \$1,500                             |  |  |
| Commercial Efficient Electric Heat Pump Rebates – SEER 14  | \$1,500                             |  |  |
| Commercial Efficient Electric Heat Pump Rebates – SEER 15  | \$1,500                             |  |  |
| Commercial Efficient Electric Heat Pump Rebates – SEER 16  | \$1,500                             |  |  |
| Commercial Efficient Electric Heat Pump Rebates – SEER 17  | \$1,500                             |  |  |
| Commercial Efficient Electric Heat Pump Rebates – SEER 18  | \$1,500                             |  |  |
| Commercial Window Film / Solar Screen Rebates              | \$107                               |  |  |
| Commercial Ceiling Insulation Rebates                      | \$270                               |  |  |
| Commercial Cool / Reflective Roof Rebates                  | \$1,500                             |  |  |

16. Regarding photovoltaic panels for schools, please explain or describe the difference in ownership of the solar facility between this program and other customer-side renewable energy installations. Please indicate when ownership would be transferred to the school. Also, please discuss anticipated maintenance costs over the life of the photovoltaic panels.

#### **OUC RESPONSE**

While photovoltaic panels for schools are not included in OUC's 2010 DSM Plan, they are part of OUC's renewable energy portfolio. OUC currently has six photovoltaic panels on schools, and is transferring ownership of these systems to the schools in return for the full rights to the renewable energy credits (RECs). OUC is in the process of performing inverter replacements. OUC is taking on this initial repair expense. Future maintenance will be the responsibility of the schools and annual maintenance is estimated to be 1 percent of the initial installed cost.

17. Please explain or describe the impact of other state or local programs that provide renewable generation to emergency shelters or other facilities that may offset, reduce the cost, or be an alternate source of funding for photovoltaic systems for schools designated as an emergency shelter.

#### **OUC RESPONSE**

While providing renewable generation for emergency shelters is not included in OUC's 2010 DSM Plan, OUC has committed to sponsor up to three emergency shelter sites this year through

the SunSmart Schools program operated by the Florida Solar Energy Center. OUC is providing a total of \$300,000 for these sites to increase the size of the systems from 10 kW to 25 kW.

18. For each program for which modifications have been proposed in 2010, please describe the specific modification(s) made to the program and the reason for each modification. As part of this response, please provide the savings estimates associated with the program prior to the proposed modifications.

# **OUC RESPONSE**

There are no modifications to OUC's existing programs that have been proposed for 2010. As discussed in Section 1.5 of OUC's 2010 DSM Plan, OUC plans to explore the inclusion of the following enhancements to its DSM programs:

- OUC is currently evaluating plans to double the rebates to \$200, \$400, and \$600 respectively in order to increase participation in both the Residential and Commercial Heat Pump rebate programs.
- To encourage proper sizing of heat pumps, OUC is also evaluating a plan to offer an incentive to the contractor of \$50 for a Manual J calculation based on R-30 or higher attic insulation. Future evaluation will be conducted to determine the effectiveness of this offering and possible inclusion as a requirement of the program. This enhancement would directly address the issue relating to including provisions that help avoid "lost opportunities" and achieve a combined savings that is greater than the separate individual measures.
- OUC is considering a process that would promote a working relationship with the HVAC contractors to gain their buy-in and cooperation to better communicate the benefits of higher efficiency heat pumps to its customers.
- Maximizing and leveraging the above working relationship with contractors participating in OUC's Preferred Contractor Network should expand customer participation within the heat pump program.
- In order to promote additional lighting retrofits within the marketplace, OUC is considering offering a rebate of \$250/kW for those customers that elect not to choose OUC's Commercial Indoor Lighting program's funding solution.

Respectfully submitted,

W. CHRISTOPHER BROWDER

Office of General Counsel Orlando Utilities Commission

100 W. Anderson Street Orlando, FL 32802

(407) 236-9698

#### PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|---|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.03 KW/CUST<br>0.04 KW GEN/CUST<br>3.9 %<br>111.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>106.6 KWH/CUST/YR                 | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR   |
| II. ECONOMIC LIFE AND K FACTORS  (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 %<br>0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER   | 33.40 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 200.00 \$/CUST  2.5 % 0.00 \$/CUST/YR  2.5 % 60.00 \$/CUST  0.0 % 0.00 \$/CUST/YR  2.5 % 8.00 % 0.00 % 100.00 \$/CUST  0.00 \$/CUST | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %   | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 90  | 90   | 3.36                               | 3.73  | 3.87  | 3,36                                | 1  | 1   |
| 2011 | 180   | 180  | 3.65                               | 3.92  | 3.99  | 3.65                                | i  | 1   |
| 2012 | 270   | 270  | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 360   | 360  | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 450   | 450  | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 540   | 540  | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 630   | 630  | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 720   | 720  | 4.67                               | 5.34  | 5.60  | 4.67                                | 1:                                       | 4   |
| 2018 | 810   | 810  | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | I   |
| 2019 | 900   | 900  | 5.14                               | 5.91  | 5.58  | 5.06                                | 1.                                       | 1   |

#### PROGRAM: Residential Energy Efficiency Wall Insulation

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|--|---|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.02 KW/CUST<br>0.02 KW GEN/CUST<br>3.9 %<br>53.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>51.4 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M SCALATION RATE | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 16.11 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST/YR 2.5 % 664.67 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 300.00 \$/CUST 0.00 \$/CUST/YR     | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Energy Efficiency Wall Insulation

\* Avoided Generation Unit: \* Program Generation Equivilency Factor:

7FA CT 1.00

|   | (1)  | (2)           | (3)           | (4)     | (5)       | (6)              | (7)         | (8)                  | (9)           |
|---|------|---------------|---------------|---------|-----------|------------------|-------------|----------------------|---------------|
|   |      |               |               | UTILITY |           |                  |             |                      |               |
|   |      |               |               | AVERAGE |           |                  |             |                      |               |
|   |      | CUMULATIVE    | ADJUSTED      | SYSTEM  | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|   |      | TOTAL         | CUMULATIVE    | FUEL    | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|   |      | PARTICIPATING | PARTICIPATING | COSTS   | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| _ | YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH) | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|   |      |               |               |         |           |                  |             |                      |               |
|   | 2010 | 7             | 7             | 3.36    | 3.73      | 3.87             | 3.36        | 1                    | 1             |
|   | 2011 | 14            | 14            | 3.65    | 3.92      | 3.99             | 3.65        | 1                    | E             |
|   | 2012 | 21            | 21            | 3.93    | 4.21      | 4.24             | 3.93        |                      | 1             |
|   | 2013 | 28            | 28            | 4.05    | 4,40      | 4.47             | 4.05        | 4                    | 15            |
|   | 2014 | 35            | 35            | 4.14    | 4.59      | 4.65             | 4.14        | 1                    | 1             |
|   | 2015 | 42            | 42            | 4.34    | 4.83      | 4.96             | 4.34        | 1                    | Ti-           |
|   | 2016 | 49            | 49            | 4.48    | 5.04      | 5.20             | 4.48        | 1                    | 1             |
|   | 2017 | 56            | 56            | 4.67    | 5.34      | 5.60             | 4.67        | 1                    | Ē             |
|   | 2018 | 63            | 63            | 4.86    | 5.53      | 5.91             | 4.85        | 1                    | 1             |
|   | 2019 | 70            | 70            | 5.14    | 5.91      | 5.58             | 5.06        | 1                    | 1             |
|   |      |               |               |         |           |                  |             |                      |               |

#### PROGRAM: Residential Single Family Survey Walk Through

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|--|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER   | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>273.7 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>263.0 KWH/CUST/YR                          | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M COST | 0 \$/KW<br>0 \$/KW<br>0 %  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 219.63 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 0.00 \$/CUST 0.00 \$/CUST | (1) NON-FUEL COST IN CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %                                 |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Single Family Survey Walk Through

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)               | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|---------------|-------------------|---------------------------|-----------|-----------|-------------|---------------|---------------|
|      | CUMULATIVE    | ADJUSTED          | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL         | <b>CUMULATIVE</b> | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING | PARTICIPATING     | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
|      |               |                   |                           |           |           |             |               |               |
| 2010 | 2013          | 2013              | 3.36                      | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011 | 4026          | 4026              | 3.65                      | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012 | 6039          | 6039              | 3.93                      | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013 | 8052          | 8052              | 4.05                      | 4,40      | 4.47      | 4.05        | 1             | 1             |
| 2014 | 10065         | 10065             | 4.14                      | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015 | 12078         | 12078             | 4.34                      | 4.83      | 4.96      | 4.34        | Ĩ             | 1             |
| 2016 | 14091         | 14091             | 4.48                      | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 16104         | 16104             | 4.67                      | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018 | 18117         | 18117             | 4.86                      | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 20130         | 20130             | 5.14                      | 5.91      | 5.58      | 5.06        | 1             | 1             |

#### PROGRAM: Residential Single Family Survey Video & DVDs

| (I) BASE YEAR   | 110  |
|---|--|
| (3) IN-SERVICE YEAR FOR AVOIDED T & D 20 (4) BASE YEAR AVOIDED GENERATING UNIT COST 120.05 (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST 10.740 (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 118<br>130<br>157 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %   |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>49 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %   |
| (2) NON-FUEL ESCALATION RATE  | 36 CENTS/KWH0 % 00 \$'KW/MO5 %   |
|   | (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GEN UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* A VOIDED GEN UNIT FUEL ESCALATION RATE (18)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (2) NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL ESCALATION RATE (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Single Family Survey Video & DVDs

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY                                | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|---|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | AVERAGE<br>SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 1816  | 1816   | 3.36  | 3.73  | 3.87  | 3.36                                | 1  | ſ   |
| 2011 | 3632  | 3632   | 3.65  | 3.92  | 3,99  | 3.65                                | 1  | 1   |
| 2012 | 5448  | 5448   | 3.93  | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 7264  | 7264   | 4.05  | 4.40  | 4.47  | 4.05                                | Î  | 1   |
| 2014 | 9080  | 9080   | 4.14  | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 10896   | 10896  | 4.34  | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 12712   | 12712  | 4.48  | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 14528   | 14528  | 4.67  | 5.34  | 5.60  | 4.67                                | Î  | 1   |
| 2018 | 16344   | 16344  | 4.86  | 5.53  | 5.91  | 4.85                                | Ĭ.                                       | Ī   |
| 2019 | 18160   | 18160  | 5.14  | 5.91  | 5.58  | 5.06                                | 1  | 1   |

#### PROGRAM: Residential Single Family Survey On Line

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|---|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>136.3 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>131.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M COST | 0 \$/KW<br>0 \$/KW<br>0 %                          |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 57.34 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 % 0.00 \$/CUST 0.00 % 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Single Family Survey On Line

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)               | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)                  | (9)           |
|------|-------------------|---------------|---------------------------|-----------|-----------|-------------|----------------------|---------------|
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR        |
|      |                   |               |                           |           |           |             |                      |               |
| 2010 | 1320              | 1320          | 3.36                      | 3.73      | 3.87      | 3.36        | 1                    | 1             |
| 2011 | 2640              | 2640          | 3.65                      | 3.92      | 3.99      | 3.65        | 1                    | 1             |
| 2012 | 3960              | 3960          | 3.93                      | 4.21      | 4.24      | 3.93        | 1                    | 1             |
| 2013 | 5280              | 5280          | 4.05                      | 4.40      | 4.47      | 4.05        | 1                    | 1             |
| 2014 | 6600              | 6600          | 4.14                      | 4.59      | 4.65      | 4.14        | 1                    | 1             |
| 2015 | 7920              | 7920          | 4.34                      | 4.83      | 4.96      | 4.34        | 1                    | 1             |
| 2016 | 9240              | 9240          | 4.48                      | 5.04      | 5.20      | 4.48        | 1                    | 1             |
| 2017 | 10560             | 10560         | 4.67                      | 5.34      | 5.60      | 4.67        | 1                    | 1             |
| 2018 | 11880             | 11880         | 4.86                      | 5,53      | 5.91      | 4.85        | 1                    | 1             |
| 2019 | 13200             | 13200         | 5.14                      | 5.91      | 5.58      | 5.06        | 1                    | 1             |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |
|--|---|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER  (2) GENERATOR KW REDUCTION PER CUSTOMER  (3) KW LINE LOSS PERCENTAGE  (4) GENERATION KWH REDUCTION PER CUSTOMER  (5) KWH LINE LOSS PERCENTAGE  (6) GROUP LINE LOSS MULTIPLIER  (7) CUSTOMER KWH PROGRAM INCREASE AT METER  (8)* CUSTOMER KWH REDUCTION AT METER  | 0.65 KW/CUST<br>0.68 KW GEN/CUST<br>3.9 %<br>1,423.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1,368.0 KWH/CUST/YR | (1) BASE YEAR  | 0 \$/KW<br>0 \$/KW<br>0 %                                   |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 249.36 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 %<br>0.00 \$/CUST/YR<br>2.5 %   | (1) NON-FUEL COST IN CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %          |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03  |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)               | (4)     | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|-------------------|---------|-----------|-----------|-------------|----------------------|----------------------|
|      |               |                   | UTILITY |           |           |             |                      |                      |
|      |               |                   | AVERAGE |           |           |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED          | SYSTEM  | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | <b>CUMULATIVE</b> | FUEL    | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING     | COSTS   | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH) | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |                   |         |           |           |             |                      |                      |
| 2010 | 30            | 30                | 3.36    | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 60            | 60                | 3.65    | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 90            | 90                | 3.93    | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 120           | 120               | 4.05    | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 150           | 150               | 4.14    | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 180           | 180               | 4.34    | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 210           | 210               | 4.48    | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 240           | 240               | 4.67    | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 270           | 270               | 4.86    | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 300           | 300               | 5.14    | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 17

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |  |  |
|---|---|--|--|--|--|
| (5) KWH LINE LOSS PERCENTAGE(6) GROUP LINE LOSS MULTIPLIER(7) CUSTOMER KWH PROGRAM INCREASE AT METER  | 0.60 KW/CUST<br>0.62 KW GEN/CUST<br>3.9 %<br>1,215.4 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1,168.0 KWH/CUST/YR   | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M ESCALATION RATE | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 0 \$/KW/<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                              |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER  | 249.36 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |  |  |  |
| (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 4.844.82 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 % 300.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %   | * FIRE Program Version Number: 1.03  |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 17

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)               | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)           | (9)                  |
|------|---------------|-------------------|---------------------------|-----------|-----------|-------------|---------------|----------------------|
|      | CUMULATIVE    | ADJUSTED          | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM              |
|      | TOTAL         | <b>CUMULATIVE</b> | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH                  |
|      | PARTICIPATING | PARTICIPATING     | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR               |
|      |               |                   |                           |           |           |             |               |                      |
| 2010 | 72            | 72                | 3.36                      | 3.73      | 3.87      | 3.36        | 1             | 1                    |
| 2011 | 144           | 144               | 3.65                      | 3.92      | 3.99      | 3.65        | 1             | 1                    |
| 2012 | 216           | 216               | 3.93                      | 4.21      | 4.24      | 3.93        | 1             | 1                    |
| 2013 | 288           | 288               | 4.05                      | 4.40      | 4.47      | 4.05        | 1             | 1                    |
| 2014 | 360           | 360               | 4.14                      | 4.59      | 4.65      | 4.14        | 1             | 1                    |
| 2015 | 432           | 432               | 4.34                      | 4.83      | 4.96      | 4.34        | 1             | 1                    |
| 2016 | 504           | 504               | 4.48                      | 5.04      | 5.20      | 4.48        | 1             | 1                    |
| 2017 | 576           | 576               | 4.67                      | 5.34      | 5.60      | 4.67        | 1             | 1                    |
| 2018 | 648           | 648               | 4.86                      | 5.53      | 5.91      | 4.85        | 1             | 1                    |
| 2019 | 720           | 720               | 5.14                      | 5.91      | 5,58      | 5.06        | 1             | 1                    |

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 16

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |
|--|--|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER   | 3.9 %<br>969.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR   | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O & M COST | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 20 YEARS<br>20 YEARS<br>0.22   | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                                   |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |  |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 3.713.70 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>1.500.00 \$/CUST<br>0.0 %<br>0.00 \$/CUST/YR<br>2.5 % | (1) NON-FUEL COST IN CUSTOMER BILL   | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  |  | * FIRE Program Version Number: 1.03  |   |  |  |
|  |  |  |   |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 16

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|----------------|-----------|-----------|-------------|----------------------|----------------------|
|      | CUMULATIVE    | ADHICTED      | AVERAGE        | HOIDED    | DICREAGED |             | PD CCD 414           | PROCEE               |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                |           |           |             |                      |                      |
| 2010 | 110           | 110           | 3.36           | 3.73      | 3.87      | 3.36        | 1                    | I                    |
| 2011 | 220           | 220           | 3.65           | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 330           | 330           | 3.93           | 4.21      | 4.24      | 3.93        | 1                    | I                    |
| 2013 | 440           | 440           | 4.05           | 4.40      | 4.47      | 4.05        | 1                    | Ī                    |
| 2014 | 550           | 550           | 4.14           | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 660           | 660           | 4.34           | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 770           | 770           | 4.48           | 5.04      | 5.20      | 4.48        | 1                    | I                    |
| 2017 | 880           | 880           | 4.67           | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 990           | 990           | 4.86           | 5.53      | 5.91      | 4.85        | T I                  | I                    |
| 2019 | 1100          | 1100          | 5.14           | 5.91      | 5.58      | 5.06        | 1                    | I                    |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 15

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |
|--|---|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.36 KW/CUST<br>0.37 KW GEN/CUST<br>3.9 %<br>761.7 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>732.0 KWH/CUST/YR                 | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 %<br>0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %                       |  |  |
| III. UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER  | 249.36 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |  |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 2.629.38 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 200.00 \$/CUST 0.00 \$/CUST | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03  |   |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 15

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 383   | 383  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 766   | 766  | 3.65                               | 3.92  | 3.99  | 3.65                                | i  | i   |
| 2012 | 1149  | 1149   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 1532  | 1532   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 1915  | 1915   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1.  |
| 2015 | 2298  | 2298   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 2681  | 2681   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 3064  | 3064   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 3447  | 3447   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 3830  | 3830   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 14

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |
|---|--|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  (2) GENERATOR KW REDUCTION PER CUSTOMER  (3) KW LINE LOSS PERCENTAGE  (4) GENERATION KWH REDUCTION PER CUSTOMER  (5) KWH LINE LOSS PERCENTAGE  (6) GROUP LINE LOSS MULTIPLIER  (7) CUSTOMER KWH PROGRAM INCREASE AT METER  (8)* CUSTOMER KWH REDUCTION AT METER   | 0.19 KW/CUST<br>0.20 KW GEN/CUST<br>3.9 %<br>432.9 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>416.0 KWH/CUST/YR  | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O&M ESCALATION RATE | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 % |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O& M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                        |  |  |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE | 249.36 \$/CUST 0.00 \$/CUST/YR 2.5 % 1.591.92 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 0.0 % 0.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 % 100.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL. (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03  |   |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 14

| (1)  | (2)   | (3)  | (4)<br>UTILITY                                | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|---|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | AVERAGE<br>SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
|      |   | 0001011210   | (0.11.1.11)                                   | (0.12.1.11)                                 | (0/12//12)                                    | (critin)                            | meron                                    | meron                                     |
| 2010 | 90  | 90   | 3.36  | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 180   | 180  | 3.65  | 3.92  | 3.99  | 3.65                                | 1  | 1   |
| 2012 | 270   | 270  | 3.93  | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 360   | 360  | 4.05  | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 450   | 450  | 4.14  | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 540   | 540  | 4.34  | 4.83  | 4.96  | 4.34                                | 1  | I   |
| 2016 | 630   | 630  | 4.48  | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 720   | 720  | 4.67  | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 810   | 810  | 4.86  | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 900   | 900  | 5.14  | 5.91  | 5.58  | 5.06                                | 1  | T   |

# PROGRAM: Residential Multi Family Survey Walk Through

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |
|---|---|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.00 KW /CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>208.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>200.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | . 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>. 0 \$/<br>. 10.74022 \$/KW/YR<br>. 2.5 %<br>0 \$/KW/YR |  |  |
| II. ECONOMIC LIFE AND K FACTORS  (1) STUDY PERIOD FOR CONSERVATION PROGRAM  (2) GENERATOR ECONOMIC LIFE  (3) T & D ECONOMIC LIFE  (4) K FACTOR FOR GENERATION  (5) K FACTOR FOR T & D  (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR   |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY RECURRING COST PER CUSTOMER (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE | 199.89 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %   | * FIRE Program Version Number: 1.03  |   |  |  |

<sup>•</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Multi Family Survey Walk Through

|   | (1)  | (2)           | (3)               | (4)     | (5)       | (6)              | (7)         | (8)                  | (9)                  |
|---|------|---------------|-------------------|---------|-----------|------------------|-------------|----------------------|----------------------|
|   |      |               |                   | UTILITY |           |                  |             |                      |                      |
|   |      |               |                   | AVERAGE |           |                  |             |                      |                      |
|   |      | CUMULATIVE    | ADJUSTED          | SYSTEM  | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM              |
|   |      | TOTAL         | <b>CUMULATIVE</b> | FUEL    | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH                  |
|   |      | PARTICIPATING | PARTICIPATING     | COSTS   | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| _ | YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH) | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR               |
|   |      |               |                   |         |           |                  |             |                      |                      |
|   | 2010 | 863           | 863               | 3.36    | 3.73      | 3.87             | 3.36        | 1                    | 1                    |
|   | 2011 | 1726          | 1726              | 3.65    | 3.92      | 3.99             | 3.65        | 1                    | 1                    |
|   | 2012 | 2589          | 2589              | 3.93    | 4.21      | 4.24             | 3.93        | 1                    |                      |
|   | 2013 | 3452          | 3452              | 4.05    | 4.40      | 4.47             | 4.05        | Ĩ                    | 1                    |
|   | 2014 | 4315          | 4315              | 4.14    | 4.59      | 4.65             | 4.14        | Î                    | 1                    |
|   | 2015 | 5178          | 5178              | 4.34    | 4.83      | 4.96             | 4.34        | 1                    | 1                    |
|   | 2016 | 6041          | 6041              | 4.48    | 5.04      | 5.20             | 4.48        | 1                    | 1                    |
|   | 2017 | 6904          | 6904              | 4.67    | 5.34      | 5.60             | 4.67        | 1                    | 1                    |
|   | 2018 | 7767          | 7767              | 4.86    | 5.53      | 5.91             | 4.85        | 1                    | 1                    |
|   | 2019 | 8630          | 8630              | 5 14    | 5.91      | 5 58             | 5.06        | 1                    | 1                    |

#### PROGRAM: Residential Multi Family Survey Video & DVDs

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER  (2) GENERATOR KW REDUCTION PER CUSTOMER  (3) KW LINE LOSS PERCENTAGE  (4) GENERATION KWH REDUCTION PER CUSTOMER  (5) KWH LINE LOSS PERCENTAGE  (6) GROUP LINE LOSS MULTIPLIER  (7) CUSTOMER KWH PROGRAM INCREASE AT METER  (8)* CUSTOMER KWH REDUCTION AT METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>104.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>100.0 KWH/CUST/YR                      | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN. TRAN. & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 0 \$/KW<br>0 \$/KW<br>0 %   |
| II. ECONOMIC LIFE AND K FACTORS  (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 %<br>0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 33.42 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY REPURTENCESTIVE ESCALATION (16)* UTILITY REPURTENCESTIVE ESCALATION (16)* UTILITY REPURTENCESTIVE ESCALATION | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Multi Family Survey Video & DVDs

|   | (1)  | (2)           | (3)           | (4)            | (5)       | (6)              | (7)         | (8)                  | (9)           |
|---|------|---------------|---------------|----------------|-----------|------------------|-------------|----------------------|---------------|
|   |      |               |               | UTILITY        |           |                  |             |                      |               |
|   |      |               |               | <b>AVERAGE</b> |           |                  |             |                      |               |
|   |      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|   |      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|   |      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| - | YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|   |      |               |               |                |           |                  |             |                      |               |
|   | 2010 | 778           | 778           | 3.36           | 3.73      | 3.87             | 3.36        | 1                    | 1-            |
|   | 2011 | 1556          | 1556          | 3.65           | 3.92      | 3.99             | 3.65        | 1                    | 1             |
|   | 2012 | 2334          | 2334          | 3.93           | 4.21      | 4.24             | 3.93        | 1                    | 1:            |
|   | 2013 | 3112          | 3112          | 4.05           | 4.40      | 4.47             | 4.05        | 1                    | 1             |
|   | 2014 | 3890          | 3890          | 4.14           | 4.59      | 4.65             | 4.14        | 1                    | 1             |
|   | 2015 | 4668          | 4668          | 4.34           | 4.83      | 4.96             | 4.34        | 1                    | 1             |
|   | 2016 | 5446          | 5446          | 4.48           | 5.04      | 5.20             | 4.48        | 1                    | T             |
|   | 2017 | 6224          | 6224          | 4.67           | 5.34      | 5.60             | 4.67        | 1                    | 1             |
|   | 2018 | 7002          | 7002          | 4.86           | 5.53      | 5.91             | 4.85        | 1                    | 1             |
|   | 2019 | 7780          | 7780          | 5.14           | 5.91      | 5.58             | 5.06        | 1                    | 1             |
|   |      |               |               |                |           |                  |             |                      |               |

#### PROGRAM: Residential Multi Family Survey On Line

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |
|---|---|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>104.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>100.0 KWH/CUST/YR   | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O &M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 47.63 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 % 0.00 \$/CUST/YR 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Multi Family Survey On Line

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 566   | 566  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 1132  |  | 3.65                               |   |   |                                     |  | 1   |
|      |   | 1132   |                                    | 3.92  | 3.99  | 3.65                                |  | 1   |
| 2012 | 1698  | 1698   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 2264  | 2264   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 2830  | 2830   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | i i                                       |
| 2015 | 3396  | 3396   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 3962  | 3962   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | i   |
| 2017 | 4528  | 4528   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | i   |
| 2018 | 5094  | 5094   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | i   |
| 2019 | 5660  | 5660   | 5.14                               | 5.91  | 5.58  | 5.06                                | î  | i   |

# PROGRAM: Residential Lighting Program (CFL)

|   | IV. AVOIDED GENERATOR, TRANS. AND DIST, COSTS  |   |
|---|--|---|
| 0.04 KW /CUST<br>0.04 KW GEN/CUST<br>3.9 %<br>60.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>58.4 KWH/CUST/YR  | (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST  | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |
| 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW   | . 0 CENTS/KWH<br>. 2.5 %<br>. 15 %<br>. 3.363149 CENTS/KWH<br>. 2.5 %<br>. 0 \$/KW/YR                   |
| 1.00 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % | (2) NON-FUEL ESCALATION RATE  (3) CUSTOMER DEMAND CHARGE PER KW  (4) DEMAND CHARGE ESCALATION RATE  (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT  | . 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
|   | 0.04 KW GEN/CUST 3.9 % 60.8 KWH/CUST/YR 3.9 % 1.0000 0.0 KWH/CUST/YR 58.4 KWH/CUST/YR  10 YEARS 20 YEARS 20 YEARS 20 YEARS 0.22 0.00 1  1.00 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 %/CUST/YR 2.5 % 0.00 %/CUST/YR 2.5 % 0.00 %/CUST/YR 2.5 % 0.00 % | 0.04 KW /CUST   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Lighting Program (CFL)

| (1)  | (2)           | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)              | (8)                  | (9)                  |
|------|---------------|---------------|---------------------------|-----------|-----------|------------------|----------------------|----------------------|
|      | CUMULATIVE    | ADJUSTED      | SYSTEM                    | AVOIDED   | INCREASED |                  | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT      | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST | <b>FUEL COST</b> | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)          | FACTOR               | FACTOR               |
|      |               |               |                           |           |           |                  |                      |                      |
| 2010 | 2876          | 2876          | 3.36                      | 3.73      | 3.87      | 3.36             | 1                    | 1                    |
| 2011 | 5752          | 5752          | 3.65                      | 3.92      | 3.99      | 3.65             | 1                    | 1                    |
| 2012 | 8628          | 8628          | 3.93                      | 4.21      | 4.24      | 3.93             | 1                    | 1                    |
| 2013 | 11504         | 11504         | 4.05                      | 4.40      | 4.47      | 4.05             | 1                    | 1                    |
| 2014 | 14380         | 14380         | 4.14                      | 4.59      | 4.65      | 4.14             | 1                    | 1                    |
| 2015 | 17256         | 17256         | 4.34                      | 4.83      | 4.96      | 4.34             | 1                    | 1                    |
| 2016 | 20132         | 20132         | 4.48                      | 5.04      | 5.20      | 4.48             | 1                    | 1                    |
| 2017 | 23008         | 23008         | 4.67                      | 5.34      | 5.60      | 4.67             | 1                    | I                    |
| 2018 | 25884         | 25884         | 4.86                      | 5.53      | 5.91      | 4.85             | 1                    | Ī                    |
| 2019 | 28760         | 28760         | 5.14                      | 5.91      | 5.58      | 5.06             | 1                    | Ī                    |

#### PROGRAM: Residential Energy Efficiency Insulation

| (1) BASE YEAR(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT(3) IN-SERVICE YEAR FOR AVOIDED T & D  | 2010<br>2018   |  |
|--|--|--|
| (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %  |  |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS(14) GENERATOR VARIABLE O&M COST ESCALATION RATE(15) GENERATOR CAPACITY FACTOR   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %  |  |
| V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |  |
|  | (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED FURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL ESCALATION RATE (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Energy Efficiency Insulation

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)               | (3)               | (4)     | (5)       | (6)              | (7)         | (8)                  | (9)                  |
|------|-------------------|-------------------|---------|-----------|------------------|-------------|----------------------|----------------------|
|      |                   |                   | UTILITY |           |                  |             |                      |                      |
|      |                   |                   | AVERAGE |           |                  |             |                      |                      |
|      | <b>CUMULATIVE</b> | ADJUSTED          | SYSTEM  | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM              |
|      | TOTAL             | <b>CUMULATIVE</b> | FUEL    | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING     | PARTICIPATING     | COSTS   | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS         | CUSTOMERS         | (C/KWH) | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR               |
|      |                   |                   |         |           |                  |             |                      |                      |
| 2010 | 225               | 225               | 3.36    | 3.73      | 3.87             | 3.36        | 1                    | 1                    |
| 2011 | 450               | 450               | 3.65    | 3.92      | 3.99             | 3.65        | 1                    | 1                    |
| 2012 | 675               | 675               | 3.93    | 4.21      | 4.24             | 3.93        | 1                    | 1                    |
| 2013 | 900               | 900               | 4.05    | 4.40      | 4,47             | 4.05        | 1                    | 1                    |
| 2014 | 1125              | 1125              | 4.14    | 4.59      | 4.65             | 4.14        | 1                    | 1                    |
| 2015 | 1350              | 1350              | 4.34    | 4.83      | 4.96             | 4.34        | 1                    | 1                    |
| 2016 | 1575              | 1575              | 4.48    | 5.04      | 5.20             | 4.48        | 1                    | 1                    |
| 2017 | 1800              | 1800              | 4.67    | 5.34      | 5.60             | 4.67        | 1                    | 1                    |
| 2018 | 2025              | 2025              | 4.86    | 5.53      | 5.91             | 4.85        | ĩ                    | 1                    |
| 2019 | 2250              | 2250              | 5.14    | 5.91      | 5.58             | 5.06        | 1                    | 1                    |

# PROGRAM: Residential Energy Efficiency High Performance Windows

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|---|---|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.37 KW/CUST<br>0.39 KW GEN/CUST<br>3.9 %<br>811.7 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>780.1 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 250.00 \$/CUST                     | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %   | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)  | (2)           | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|---------------------------|-----------|-----------|-------------|----------------------|----------------------|
|      | CUMULATIVE    | ADJUSTED      | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                           |           |           |             |                      |                      |
| 2010 | 105           | 105           | 3.36                      | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 210           | 210           | 3.65                      | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 315           | 315           | 3.93                      | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 420           | 420           | 4.05                      | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 525           | 525           | 4.14                      | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 630           | 630           | 4.34                      | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 735           | 735           | 4.48                      | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 840           | 840           | 4.67                      | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 945           | 945           | 4.86                      | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 1050          | 1050          | 5.14                      | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

#### PROGRAM: Residential Energy Efficiency Gold Ring

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |
|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER   | 0.89 KW/CUST<br>0.93 KW GEN/CUST<br>3.9 %<br>1,366.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1.313.5 KWH/CUST/YR                                 | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M SECALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 411.44 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 700.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |
| (10)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Gold Ring

|     | (1) | (2)           | (3)               | (4)     | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|-----|-----|---------------|-------------------|---------|-----------|-----------|-------------|----------------------|----------------------|
|     |     | 87.           |                   | UTILITY | 3-7       | 3-7       | 3.7.6       | (3)                  | (-)                  |
|     |     |               |                   | AVERAGE |           |           |             |                      |                      |
|     |     | CUMULATIVE    | ADJUSTED          | SYSTEM  | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|     |     | TOTAL         | <b>CUMULATIVE</b> | FUEL    | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|     |     | PARTICIPATING | PARTICIPATING     | COSTS   | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEA | \R  | CUSTOMERS     | CUSTOMERS         | (C/KWH) | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|     |     |               |                   |         |           |           |             |                      |                      |
| 20  | 10  | 6             | 6                 | 3.36    | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 20  | 11  | 12            | 12                | 3.65    | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 20  | 12  | 18            | 18                | 3.93    | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 20  | 13  | 24            | 24                | 4.05    | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 20  | 14  | 30            | 30                | 4.14    | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 20  | 15  | 36            | 36                | 4.34    | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 20  | 16  | 42            | 42                | 4.48    | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 20  | 17  | 48            | 48                | 4.67    | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 20  | 18  | 54            | 54                | 4.86    | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 20  | 19  | 60            | 60                | 5.14    | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

# PROGRAM: Residential Home Energy Fix Up

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS, AND DIST, COSTS  |  |
|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.27 KW /CUST<br>0.28 KW GEN/CUST<br>3.9 %<br>260.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>250.0 KWH/CUST/YR   | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O&M ESCALATION RATE | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O &M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %   |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 78.31 \$/CUST 0.00 \$/CUST/YR 2.5 % 97.76 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 554.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %                       |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 2.5 %  | * FIRE Program Version Number: 1.03  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY, UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Home Energy Fix Up

\* Avoided Generation Unit: \* Program Generation Equivilency Factor:

468

520

2018

2019

7FA CT 1.00

(1) (7) (8) (9) (2) (3) (4) (5) (6) UTILITY AVERAGE CUMULATIVE ADJUSTED SYSTEM AVOIDED INCREASED **PROGRAM** PROGRAM FUEL MARGINAL MARGINAL REPLACEMENT KW KWH TOTAL CUMULATIVE PARTICIPATING PARTICIPATING COSTS FUEL COST FUEL COST FUEL COST EFFECTIVENESS EFFECTIVENESS (C/KWH) FACTOR YEAR CUSTOMERS CUSTOMERS (C/KWH) (C/KWH) (C/KWH) FACTOR 2010 52 52 3.36 3.73 3.87 3.36 2011 104 104 3.65 3.92 3,99 3.65 4.21 4.24 2012 156 156 3.93 3.93 2013 208 208 4.05 4.40 4.47 4.05 2014 260 260 4.59 4.65 4.14 4.14 2015 312 312 4.83 4.96 4.34 4.34 2016 364 364 4.48 5.04 5.20 4.48 2017 416 416 4.67 5.34 5.60 4.67

5.53

5.91

5.91

5.58

4.85

5.06

468

520

4.86

5.14

.

#### PROGRAM: Residential Energy Efficiency Duct Repair

| IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |
|---|
| ST  |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0 CENTS/KWH (14) GENERATOR VARIABLE O & M COST ESCALATION RATE 2.5 % (15) GENERATOR CAPACITY FACTOR 15 % (16) AVOIDED GENERATING UNIT FUEL COST 3.363149 CENTS/KWH (17) AVOIDED GEN UNIT FUEL ESCALATION RATE 2.5 % (18)* AVOIDED PURCHASE CAPACITY COST PER KW 0 \$/KW/YR (19)* CAPACITY COST ESCALATION RATE 2.5 % |
| V. NON-FUEL ENERGY AND DEMAND CHARGES  OCCUPATION OF THE CONTRACT PLANTS AND DEMAND CHARGES   |
| (1) NON-FUEL COST IN CUSTOMER BILL  |
|   |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Energy Efficiency Duct Repair

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)           | (3)               | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|-------------------|----------------|-----------|-----------|-------------|----------------------|----------------------|
|      |               |                   | AVERAGE        |           |           |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED          | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | <b>CUMULATIVE</b> | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING     | COSTS          | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |                   |                |           |           |             |                      |                      |
| 2010 | 135           | 135               | 3.36           | 3.73      | 3.87      | 3.36        | 1                    | Į.                   |
| 2011 | 270           | 270               | 3.65           | 3,92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 405           | 405               | 3.93           | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 540           | 540               | 4.05           | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 675           | 675               | 4.14           | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 810           | 810               | 4.34           | 4.83      | 4.96      | 4.34        | T                    | 1                    |
| 2016 | 945           | 945               | 4.48           | 5.04      | 5.20      | 4.48        | 1                    | f.                   |
| 2017 | 1080          | 1080              | 4.67           | 5.34      | 5.60      | 4.67        | 1                    | T .                  |
| 2018 | 1215          | 1215              | 4.86           | 5.53      | 5.91      | 4.85        | 1                    | Ĭ.                   |
| 2019 | 1350          | 1350              | 5.14           | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

#### PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |
|--|--|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER | 0.31 KW /CUST<br>0.32 KW GEN/CUST<br>3.9 %<br>715.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>687.2 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M ESCALATION RATE (10) TRANSMISSION FIXED O &M COST (11) DISTRIBUTION FIXED O &M COST (12) T&D FIXED O &M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 % |
| II. ECONOMIC LIFE AND K FACTORS  (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS   | (13) AVOIDED GEN UNIT VARIABLE 0 & M COSTS   | 0 CENTS/KWH<br>2.5 %  |
| (2) GENERATOR ECONOMIC LIFE  (3) T & D ECONOMIC LIFE  (4) K FACTOR FOR GENERATION  (5) K FACTOR FOR T & D  (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR   |
| III. UTILITY AND CUSTOMER COSTS  |  |  |   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 215.24 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |
| (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE                 | 650.94 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>1.500.00 \$/CUST<br>0.0 %<br>0.00 \$/CUST/YR<br>2.5 %               | (1) NON-FUEL COST IN CUSTOMER BILL   |   |
| (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 8.00 %<br>0.00 %<br>150.00 \$/CUST<br>0.00 \$/CUST/YR<br>0.0 %   | * FIRE Program Version Number: 1.03  |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)  | (2)           | (3)           | (4)<br>UTILITY    | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|---------------|---------------|-------------------|-----------|-----------|-------------|---------------|---------------|
|      | CUMULATIVE    | ADJUSTED      | AVERAGE<br>SYSTEM | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL         | CUMULATIVE    | FUEL              | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING | PARTICIPATING | COSTS             | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)           | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
| 700  | ,             |               |                   |           |           |             |               |               |
| 2010 | 13            | 13            | 3.36              | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011 | 26            | 26            | 3.65              | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012 | 39            | 39            | 3.93              | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013 | 52            | 52            | 4.05              | 4.40      | 4.47      | 4.05        | 1             | 1             |
| 2014 | 65            | 65            | 4.14              | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015 | 78            | 78            | 4.34              | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016 | 91            | 91            | 4.48              | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 104           | 104           | 4.67              | 5.34      | 5.60      | 4.67        | 1             | 1.            |
| 2018 | 117           | 117           | 4.86              | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 130           | 130           | 5.14              | 5.91      | 5.58      | 5.06        | 1             | 1             |

# PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

|   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |  |  |
|---|--|--|--|--|
| 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>26.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>25.0 KWH/CUST/YR   | (5) BASE YEAR AVOIDED TRANSMISSION COST  | 0 \$/KW<br>0 \$/KW<br>0 %                          |  |  |
| 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (17) AVOIDED GEN UNIT FUEL ESCALATION RATE(18)* AVOIDED PURCHASE CAPACITY COST PER KW  | 2.5 %<br>0 \$/KW/YR                                |  |  |
| 7.83 \$/CUST 0.00 \$/CUST/YR 2.5 % 100.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 30.00 \$/CUST 0.0 % 0.00 \$/CUST 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.0 % | (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |  |  |
|   | 0.00 KW GEN/CUST 3.9 % 26.0 KWH/CUST/YR 3.9 % 1.0000 0.0 KWH/CUST/YR 25.0 KWH/CUST/YR 25.0 KWH/CUST/YR 25.0 KWH/CUST/YR 25.0 YEARS 20 YEARS 20 YEARS 20 YEARS 0.22 0.00 1  7.83 \$/CUST 0.00 \$/CUST/YR 2.5 % 100.00 \$/CUST/YR 2.5 % 30.00 \$/CUST/YR 2.5 % 30.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST | 0.00 KW/CUST                                       |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)  | (2)               | (3)               | (4)     | (5)              | (6)              | (7)         | (8)                  | (9)                  |
|------|-------------------|-------------------|---------|------------------|------------------|-------------|----------------------|----------------------|
|      |                   |                   | UTILITY |                  |                  |             |                      |                      |
|      |                   |                   | AVERAGE |                  |                  |             |                      |                      |
|      | <b>CUMULATIVE</b> | ADJUSTED          | SYSTEM  | AVOIDED          | <b>INCREASED</b> |             | PROGRAM              | PROGRAM              |
|      | TOTAL             | <b>CUMULATIVE</b> | FUEL    | MARGINAL         | MARGINAL         | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING     | PARTICIPATING     | COSTS   | <b>FUEL COST</b> | <b>FUEL COST</b> | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS         | CUSTOMERS         | (C/KWH) | (C/KWH)          | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR               |
|      |                   |                   |         |                  |                  |             |                      |                      |
| 2010 | 34                | 34                | 3.36    | 3.73             | 3.87             | 3.36        | 1                    | I                    |
| 2011 | 68                | 68                | 3.65    | 3.92             | 3.99             | 3.65        | 1                    | 1                    |
| 2012 | 102               | 102               | 3.93    | 4.21             | 4.24             | 3.93        | 1                    | 1                    |
| 2013 | 136               | 136               | 4.05    | 4.40             | 4.47             | 4.05        | 1                    | 1                    |
| 2014 | 170               | 170               | 4.14    | 4.59             | 4.65             | 4.14        | 1                    | Ĭ                    |
| 2015 | 204               | 204               | 4.34    | 4.83             | 4.96             | 4.34        | 1                    | Ĭ                    |
| 2016 | 238               | 238               | 4.48    | 5.04             | 5.20             | 4.48        | 1                    | T.                   |
| 2017 | 272               | 272               | 4.67    | 5.34             | 5.60             | 4.67        | 1                    | Ĩ                    |
| 2018 | 306               | 306               | 4.86    | 5.53             | 5.91             | 4.85        | 1                    | Ŧ                    |
| 2019 | 340               | 340               | 5.14    | 5.91             | 5.58             | 5.06        | 1                    | 1                    |

#### PROGRAM: Commercial Heat Pump SEER 18

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |
|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.65 KW/CUST 0.68 KW GEN/CUST 3.9 % 1.423.5 KWH/CUST/YR 3.9 % 1.0000 0.0 KWH/CUST/YR 1.368.0 KWH/CUST/YR   | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O&M ESCALATION RATE | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 129.84 \$/CUST 0.00 \$/CUST/YR 2.5 96 6.022.82 \$/CUST 2.5 96 0.00 \$/CUST/YR 2.5 96 1.500.00 \$/CUST 0.0 96 0.00 \$/CUST/YR 2.5 96 8.00 96 0.00 \$/CUST/YR 2.5 96 8.00 96 0.00 96 300.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Heat Pump SEER 18

| (1)  | (2)           | (3)           | (4)<br>UTILITY    | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|-------------------|-----------|-----------|-------------|----------------------|----------------------|
|      | CUMULATIVE    | ADJUSTED      | AVERAGE<br>SYSTEM | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL              | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS             | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)           | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                   |           |           |             |                      |                      |
| 2010 | 3             | 3             | 3.36              | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 6             | 6             | 3.65              | 3.92      | 3.99      | 3.65        | 1                    | Ť                    |
| 2012 | 9             | 9             | 3.93              | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 12            | 12            | 4.05              | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 15            | 15            | 4.14              | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 18            | 18            | 4.34              | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 21            | 21            | 4.48              | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 24            | 24            | 4.67              | 5,34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 27            | 27            | 4.86              | 5.53      | 5.91      | 4.85        | 1                    | ï                    |
| 2019 | 30            | 30            | 5.14              | 5.91      | 5.58      | 5.06        | 1                    | i i                  |

# PROGRAM: Commercial Heat Pump SEER 17

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|---|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.60 KW/CUST<br>0.62 KW GEN/CUST<br>3.9 %<br>1,215.4 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1,168.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR           |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 129.84 \$/CUST 0.00 \$/CUST/YR 2.5 % 4.844.82 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 1,500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 7.98 \$/KW/MO<br>2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03   |   |

\*SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Heat Pump SEER 17

\* Avoided Generation Unit:

7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)               | (3)           | (4)     | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|-------------------|---------------|---------|-----------|-----------|-------------|---------------|---------------|
|      |                   |               | UTILITY |           |           |             |               |               |
|      |                   |               | AVERAGE |           |           |             |               |               |
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM  | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL    | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS   | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH) | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
|      |                   |               |         |           |           |             |               |               |
| 2010 | 4                 | 4             | 3.36    | 3.73      | 3,87      | 3.36        | 1             | 1             |
| 2011 | 8                 | 8             | 3.65    | 3.92      | 3,99      | 3.65        | 1             | 1             |
| 2012 | 12                | 12            | 3.93    | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013 | 16                | 16            | 4.05    | 4.40      | 4.47      | 4.05        | , 1           | 1             |
| 2014 | 20                | 20            | 4.14    | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015 | 24                | 24            | 4.34    | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016 | 28                | 28            | 4.48    | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 32                | 32            | 4.67    | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018 | 36                | 36            | 4.86    | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 40                | 40            | 5.14    | 5.91      | 5.58      | 5.06        | 1             | 1             |

# PROGRAM: Commercial Heat Pump SEER 16

|  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |
|--|---|--|--|--|
| 0.45 KW/CUST<br>0.47 KW GEN/CUST<br>3.9 %<br>969.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>932.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE         | 0 \$/KW<br>0 \$/KW<br>0 %  |  |  |
| 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 % |  |  |
| 129.84 \$'CUST 0.00 \$/CUST/YR 2.5 % 3.713.70 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.0 % 0.00 \$/CUST 0.0 % | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  *FIRE Program Version Number: 1.03   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %                                 |  |  |
|  | 0.47 KW GEN/CUST 3.9 % 969.8 KWH/CUST/YR 3.9 % 1.0000 0.0 KWH/CUST/YR 932.0 KWH/CUST/YR 932.0 KWH/CUST/YR  10 YEARS 20 YEARS 20 YEARS 0.22 0.00 1 1 129.84 \$'CUST 0.00 \$'CUST/YR 2.5 % 3.713.70 \$'CUST 2.5 % 1.500.00 \$'CUST/YR 2.5 % 1.500.00 \$'CUST/YR 2.5 % 3.00.00 \$'CUST 0.00 \$'CUST/YR | 0.45 KW /CUST  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Commercial Heat Pump SEER 16

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 7   | 7  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 14  | 14   | 3.65                               | 3.92  | 3.99  | 3.65                                |  | i   |
| 2012 | 21  | 21   | 3.93                               | 4.21  | 4.24  | 3.93                                | i  | Ŷ   |
| 2013 | 28  | 28   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | i   |
| 2014 | 35  | 35   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 42  | 42   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 49  | 49   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 56  | 56   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 63  | 63   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 70  | 70   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

#### PROGRAM: Commercial Heat Pump SEER 15

| (1) BASE YEAR(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  | 2010  |
|---|---|
| (3) IN-SERVICE YEAR FOR A VOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN. TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR  |
| (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE                           | 2.5 %<br>0 \$/KW/YR   |
| V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  * FIRE Program Version Number: 1.03   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %  |
|   | (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN. TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&O FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GEN UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED GEN UNIT FUEL ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Commercial Heat Pump SEER 15

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)              | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|----------------|-----------|------------------|-------------|----------------------|----------------------|
|      |               |               | AVERAGE        |           |                  |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                |           |                  |             |                      |                      |
| 2010 | 4             | 4             | 3.36           | 3.73      | 3.87             | 3.36        | 1                    | 1                    |
| 2011 | 8             | 8             | 3.65           | 3.92      | 3.99             | 3.65        | 1                    | I.                   |
| 2012 | 12            | 12            | 3.93           | 4.21      | 4.24             | 3.93        | 1                    | ĺ.                   |
| 2013 | 16            | 16            | 4.05           | 4.40      | 4.47             | 4.05        | 1                    | 1                    |
| 2014 | 20            | 20            | 4.14           | 4.59      | 4.65             | 4.14        | 1                    | 1                    |
| 2015 | 24            | 24            | 4.34           | 4.83      | 4.96             | 4.34        | 1                    | Ĭ.                   |
| 2016 | 28            | 28            | 4.48           | 5.04      | 5.20             | 4.48        | 1                    | 1                    |
| 2017 | 32            | 32            | 4.67           | 5.34      | 5.60             | 4.67        | 1                    | 1                    |
| 2018 | 36            | 36            | 4.86           | 5.53      | 5.91             | 4.85        | 1                    | 1                    |
| 2019 | 40            | 40            | 5.14           | 5.91      | 5.58             | 5.06        | 1                    | 1                    |

INPUT DATA -- PART | PSC FORM CE 1.1

#### PROGRAM: Commercial Heat Pump SEER 14

| BASE YEARIN-SERVICE YEAR FOR AVOIDED GENERATING UNIT   | 2010   |
|--|--|
| BASE YEAR AVOIDED GENERATING UNIT COST BASE YEAR AVOIDED TRANSMISSION COST BASE YEAR DISTRIBUTION COST GEN, TRAN, & DIST COST ESCALATION RATE GENERATOR FIXED O & M COST GENERATOR FIXED O&M ESCALATION RATE ) TRANSMISSION FIXED O & M COST | 0 \$/KW<br>0 \$/KW<br>0 %  |
| ,  | 0 %  |
| ) GENERATOR VARIABLE O&M COST ESCALATION RATE ) GENERATOR CAPACITY FACTOR ) AVOIDED GENERATING UNIT FUEL COST ) AVOIDED GEN UNIT FUEL ESCALATION RATE )* AVOIDED PURCHASE CAPACITY COST PER KW   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %   |
|  |  |
| NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
|  | BASE YEAR AVOIDED TRANSMISSION COST BASE YEAR DISTRIBUTION COST GEN, TRAN, & DIST COST ESCALATION RATE GENERATOR FIXED O & M COST GENERATOR FIXED O & M COST TRANSMISSION FIXED O & M COST ) TRANSMISSION FIXED O & M COST ) DISTRIBUTION FIXED O & M COST ) T&D FIXED O&M ESCALATION RATE ) AVOIDED GEN UNIT VARIABLE O & M COSTS ) GENERATOR VARIABLE O&M COST ESCALATION RATE ) AVOIDED GENERATING UNIT FUEL COST ) AVOIDED GENERATING UNIT FUEL COST ) AVOIDED PURCHASE CAPACITY COST PER KW )* CAPACITY COST ESCALATION RATE  **NON-FUEL ENERGY AND DEMAND CHARGES  NON-FUEL COST IN CUSTOMER BILL NON-FUEL ESCALATION RATE CUSTOMER DEMAND CHARGE PER KW  DEMAND CHARGE ESCALATION RATE  **UVERSITY and ANNUAL DEMAND ADJUSTMENT |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

INPUT DATA -- PART 2 PSC FORM CE 1.2

#### PROGRAM: Commercial Heat Pump SEER 14

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)     | (5)       | (6)              | (7)         | (8)                  | (9)           |
|------|---------------|---------------|---------|-----------|------------------|-------------|----------------------|---------------|
|      | \/            | (-)           | UTILITY | ,,,,      | (-)              | (.)         | (0)                  | (*)           |
|      |               |               | AVERAGE |           |                  |             |                      |               |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM  | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|      | TOTAL         | CUMULATIVE    | FUEL    | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING | PARTICIPATING | COSTS   | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH) | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|      |               |               |         |           |                  |             |                      |               |
| 2010 | 1             | 1             | 3.36    | 3.73      | 3.87             | 3.36        | 1                    | 1             |
| 2011 | 2             | 2             | 3.65    | 3.92      | 3.99             | 3.65        | 1                    | 1             |
| 2012 | 3             | 3             | 3.93    | 4.21      | 4.24             | 3.93        | 1                    | 1             |
| 2013 | 4             | 4             | 4.05    | 4.40      | 4.47             | 4.05        | 1                    | 1             |
| 2014 | 5             | 5             | 4.14    | 4.59      | 4.65             | 4.14        | 1                    | 1             |
| 2015 | 6             | 6             | 4.34    | 4.83      | 4.96             | 4.34        | 1                    | 1             |
| 2016 | 7             | 7             | 4.48    | 5.04      | 5.20             | 4.48        | 1                    | 1             |
| 2017 | 8             | 8             | 4.67    | 5.34      | 5.60             | 4.67        | 1                    | 1             |
| 2018 | 9             | 9             | 4.86    | 5.53      | 5.91             | 4.85        | 1                    | 1             |
| 2019 | 10            | 10            | 5.14    | 5.91      | 5.58             | 5.06        | 1                    | 1             |

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INPUT DATA -- PART 1 PSC FORM CE 1.1

#### PROGRAM: Commercial Indoor Lighting

| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER 3  II. ECONOMIC LIFE AND K FACTORS   | 3.9 %<br>1.0000<br>0.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
|---|---|--|--|
| II. ECONOMIC LIFE AND K FACTORS   |   | (12) T&D FIXED O&M ESCALATION RATE(13) AVOIDED GEN UNIT VARIABLE O & M COSTS   | 0 %<br>0 CENTS/KWH   |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS  | (14) GENERATOR VARIABLE O&M COST ESCALATION RATE<br>(15) GENERATOR CAPACITY FACTOR(16) AVOIDED GENERATING UNIT FUEL COST   |  |
| (4) K FACTOR FOR GENERATION   | 0.22  | (17) AVOIDED GENERATING UNIT FUEL COST   |  |
| (7) KTACTOR FOR GENERATION  |   |  |  |
| (5) K FACTOR FOR T & D  (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 0.00  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW(19)* CAPACITY COST ESCALATION RATE   | 7  |
| (5) K FACTOR FOR T & D  | 1<br>48,143.55 \$/CUST<br>0.00 \$/CUST/YR   | * *  |  |
| (5) K FACTOR FOR T & D  | 48.143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %   | V. NON-FUEL ENERGY AND DEMAND CHARGES  | 2.5 %  |
| (5) K FACTOR FOR T & D  | 1<br>48,143.55 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 2.5 %<br>3.586 CENTS/KWH   |
| (5) K FACTOR FOR T & D  | 1<br>48,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST  | V. NON-FUEL ENERGY AND DEMAND CHARGES  | 2.5 %  |
| (5) K FACTOR FOR T & D  | 48.143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE   | 2.5 %  3.586 CENTS/KWH 2.0 %   |
| (5) K FACTOR FOR T & D  | 48,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 48.143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO  |
| (5) K FACTOR FOR T & D  | 18,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 18,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %  | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  III. UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT PER INSTALLATION (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE                               | 18,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR             | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 18,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 % | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  III. UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT PER INSTALLATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE | 18,143.55 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR             | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

INPUT DATA -- PART 2 PSC FORM CE 1.2

#### PROGRAM: Commercial Indoor Lighting

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|---------------------------|-----------|-----------|-------------|----------------------|----------------------|
|      | CUMULATIVE    | ADJUSTED      | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                           |           |           |             |                      |                      |
| 2010 | 8             | 8             | 3.36                      | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 16            | 16            | 3.65                      | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 24            | 24            | 3.93                      | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 32            | 32            | 4.05                      | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 40            | 40            | 4.14                      | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 48            | 48            | 4.34                      | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 56            | 56            | 4.48                      | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 64            | 64            | 4.67                      | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 72            | 72            | 4.86                      | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 80            | 80            | 5.14                      | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

INPUT DATA -- PART 1 PSC FORM CE 1.1

#### PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|---|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>77.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>74.5 KWH/CUST/YR                                | (1) BASE YEAR   | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O& M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS SCALATION RATE | 9.86 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>356.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>106.80 \$/CUST<br>0.0 %<br>0.00 \$/CUST/YR<br>2.5 % | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %                       |
| (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 8.00 %<br>0.00 %<br>133.43 \$/CUST<br>0.00 \$/CUST/YR<br>0.0 %   | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

INPUT DATA -- PART 2 PSC FORM CE 1.2

#### PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|---------------|---------------|----------------|-----------|-----------|-------------|---------------|---------------|
|      |               |               | AVERAGE        |           |           |             |               |               |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
|      |               |               |                |           |           |             |               |               |
| 2010 | 7             | 7             | 3.36           | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011 | 14            | 14            | 3.65           | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012 | 21            | 21            | 3.93           | 4.21      | 4.24      | 3.93        | 1             | 1.            |
| 2013 | 28            | 28            | 4.05           | 4.40      | 4.47      | 4.05        | 1             | 1             |
| 2014 | 35            | 35            | 4.14           | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015 | 42            | 42            | 4.34           | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016 | 49            | 49            | 4.48           | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 56            | 56            | 4.67           | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018 | 63            | 63            | 4.86           | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 70            | 70            | 5.14           | 5.91      | 5.58      | 5.06        | 1             | 1             |

INPUT DATA -- PART 1 PSC FORM CE 1.1

#### PROGRAM: Commercial Energy Audit

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|---|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.15 KW/CUST<br>0.16 KW GEN/CUST<br>3.9 %<br>883.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>848.6 KWH/CUST/YR   | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| II. ECONOMIC LIFE AND K FACTORS   |   | (12) T&D FIXED O&M ESCALATION RATE  | 0 %   |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE  |   |
| (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 0.00  | (18)* AVOIDED GEN UNIT FUEL ESCALATION RATE  (18)* AVOIDED PURCHASE CAPACITY COST PER KW  (19)* CAPACITY COST ESCALATION RATE   | 0 \$/KW/YR  |
| (5) K FACTOR FOR T & D  |   | (18)* AVOIDED PURCHASE CAPACITY COST PER KW   | 0 \$/KW/YR  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST   | (18)* AVOIDED PURCHASE CAPACITY COST PER KW(19)* CAPACITY COST ESCALATION RATE  | 0 \$/KW/YR  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW   | 0 \$/KW/YR  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST   | (18)* AVOIDED PURCHASE CAPACITY COST PER KW(19)* CAPACITY COST ESCALATION RATE  | 0 \$/KW/YR<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %   | (18)* AVOIDED PURCHASE CAPACITY COST PER KW(19)* CAPACITY COST ESCALATION RATE  | 0 \$/KW/YR<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  (2) NON-FUEL ESCALATION RATE  (3) CUSTOMER DEMAND CHARGE PER KW  | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR   | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO  |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %  | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D  | 0.00<br>1<br>576.50 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST             | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |
| (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  III. UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE | 0.00 1  576.50 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % | (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT   | 0 \$/KW/YR<br>2.5 %<br>3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

#### PROGRAM: Commercial Energy Audit

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)               | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)              | (6)              | (7)         | (8)                  | (9)           |
|------|-------------------|---------------|---------------------------|------------------|------------------|-------------|----------------------|---------------|
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM                    | AVOIDED          | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL                      | MARGINAL         | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS                     | <b>FUEL COST</b> | <b>FUEL COST</b> | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)                   | (C/KWH)          | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|      |                   |               |                           |                  |                  |             |                      |               |
| 2010 | 248               | 248           | 3.36                      | 3.73             | 3.87             | 3.36        | 1                    | 1             |
| 2011 | 496               | 496           | 3.65                      | 3.92             | 3.99             | 3.65        | 1                    | 1             |
| 2012 | 744               | 744           | 3.93                      | 4.21             | 4.24             | 3.93        | 1                    | 1             |
| 2013 | 992               | 992           | 4.05                      | 4.40             | 4,47             | 4.05        | 1                    | 1.            |
| 2014 | 1240              | 1240          | 4.14                      | 4.59             | 4.65             | 4.14        | 1                    | 1             |
| 2015 | 1488              | 1488          | 4.34                      | 4.83             | 4.96             | 4.34        | 1                    | i             |
| 2016 | 1736              | 1736          | 4.48                      | 5.04             | 5.20             | 4.48        | 1                    | 1             |
| 2017 | 1984              | 1984          | 4.67                      | 5.34             | 5.60             | 4.67        | 1                    | 1             |
| 2018 | 2232              | 2232          | 4.86                      | 5.53             | 5.91             | 4.85        | î                    | i             |
| 2019 | 2480              | 2480          | 5.14                      | 5.91             | 5.58             | 5.06        | 1                    | 1             |

INPUT DATA -- PART 1 PSC FORM CE 1.1

#### PROGRAM: Commercial Energy Efficiency Duct

|  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |
|--|--|--|
| 0.22 KW /CUST<br>0.23 KW GEN/CUST<br>3.9 %<br>391.3 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>376.0 KWH/CUST/YR   | (1) BASE YEAR  | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                              |
| 45.10 S/CUST 0.00 S/CUST/YR 2.5 % 450.00 S/CUST 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 S/CUST 2.5 % 0.00 S/CUST 2.5 % 0.00 S/CUST/YR 2.5 % 8.00 % 0.00 S/CUST/YR 2.5 % 8.00 % 0.00 S/CUST 0.00 S/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 3.586 CENTS/KWH 2.0 % 7.98 \$/KW/MO 2.5 % 1.0  |
|  | 0.23 KW GEN/CUST 3.9 % 391.3 KWH/CUST/YR 3.9 % 1.0000 0.0 KWH/CUST/YR 376.0 KWH/CUST/YR  10 YEARS 20 YEARS 20 YEARS 20 YEARS 0.22 0.00 1  45.10 S/CUST 0.00 S/CUST/YR 2.5 % 450.00 S/CUST 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 % 150.00 S/CUST | 0.22 KW /CUST  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

### PROGRAM: Commercial Energy Efficiency Duct

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 10  | 10   | 3.36                               | 3.73  | 3.87  | 3.36                                | ï  | 1   |
| 2011 | 20  | 20   | 3.65                               | 3.92  | 3.99  | 3.65                                | i  | i   |
| 2012 | 30  | 30   | 3.93                               | 4.21  | 4.24  | 3.93                                | i  | i   |
| 2013 | 40  | 40   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 50  | 50   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 60  | 60   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 70  | 70   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | _1  |
| 2017 | 80  | 80   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 90  | 90   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 100   | 100  | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

INPUT DATA -- PART | PSC FORM CE 1.1

#### PROGRAM: Commercial Energy Efficiency Cool Roof

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |
|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER   | (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/KW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/KW         (6) BASE YEAR DISTRIBUTION COST       0 \$/KW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED 0 & M COST       10.74022 \$/KW/YI         (9) GENERATOR FIXED 0 &M COST       2.5 %         (10) TRANSMISSION FIXED 0 & M COST       0 \$/KW/YI         (11) DISTRIBUTION FIXED 0 & M COST       0 \$/KW/YI         (12) T&D FIXED 0 &M ESCALATION RATE       0 % |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM       10 YEARS         (2) GENERATOR ECONOMIC LIFE       20 YEARS         (3) T & D ECONOMIC LIFE       20 YEARS         (4) K FACTOR FOR GENERATION       0.22         (5) K FACTOR FOR T & D       0.00         (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)       1 | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS       0 CENTS/I         (14) GENERATOR VARIABLE O & M COST ESCALATION RATE       2.5 %         (15) GENERATOR CAPACITY FACTOR       15 %         (16) AVOIDED GENERATING UNIT FUEL COST       3.363149 CENTS/I         (17) AVOIDED GEN UNIT FUEL ESCALATION RATE       2.5 %         (18)* AVOIDED PURCHASE CAPACITY COST PER KW       0 \$/KW/YI         (19)* CAPACITY COST ESCALATION RATE       2.5 %  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER   17.214.55   | V. NON-FUEL ENERGY AND DEMAND CHARGES         (1) NON-FUEL COST IN CUSTOMER BILL       3,586 CENTS/I         (2) NON-FUEL ESCALATION RATE       2.0 %         (3) CUSTOMER DEMAND CHARGE PER KW       7.98 \$/KW/M         (4) DEMAND CHARGE ESCALATION RATE       2.5 %         (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT       1.0         FACTOR FOR CUSTOMER BILL       1.0  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | * FIRE Program Version Number: 1.03  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

INPUT DATA -- PART 2 PSC FORM CE 1.2

#### PROGRAM: Commercial Energy Efficiency Cool Roof

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|----------------|-----------|-----------|-------------|----------------------|----------------------|
|      |               |               | <b>AVERAGE</b> |           |           |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                |           |           |             |                      |                      |
| 2010 | 7             | 7             | 3.36           | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 14            | 14            | 3.65           | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 21            | 21            | 3.93           | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 28            | 28            | 4.05           | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 35            | 35            | 4.14           | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 42            | 42            | 4.34           | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 49            | 49            | 4.48           | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 56            | 56            | 4.67           | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 63            | 63            | 4.86           | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 70            | 70            | 5.14           | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

INPUT DATA -- PART 1 PSC FORM CE 1.1

#### PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |
|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.17 KW /CUST<br>0.18 KW GEN/CUST<br>3.9 %<br>586.9 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>564.0 KWH/CUST/YR   | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O&M ESCALATION RATE | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                              |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 65.17 \$/CUST 0.00 \$/CUST/YR 2.5 % 576.45 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 270.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

INPUT DATA -- PART 2 PSC FORM CE 1.2

#### PROGRAM: Commercial Energy Efficiency Ceiling Insulation

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 7   | 7  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 14  | 14   | 3.65                               | 3.92  | 3.99  | 3.65                                | 1  | 1   |
| 2012 | 21  | 21   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 28  | 28   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1.  |
| 2014 | 35  | 35   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1.  |
| 2015 | 42  | 42   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1.  |
| 2016 | 49  | 49   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 56  | 56   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 63  | 63   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 70  | 70   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)     | (2)     | (3)      | (4)      | (5)        | (6)     | (7)     | (8)      | (9)     | (10)       | (11)      | (12)       | (13)    | (14)    | (15)   | (16)     | (17)    | (18)    |
|---------|---------|----------|----------|------------|---------|---------|----------|---------|------------|-----------|------------|---------|---------|--------|----------|---------|---------|
|         | < UTILI | TY PROGR | AM COSTS | S & REBATE | S       | >       | <        | PARTI   | CIPATING C | USTOMER O | COSTS & BE | NEFITS  |         |        |          |         | >       |
|         |         |          |          |            |         |         |          |         |            |           |            |         |         |        |          |         |         |
|         |         |          | TOTAL    |            |         | TOTAL   | PARTIC.  | PARTIC. | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.     | INC.    | EFFECT. |
|         | UTIL    | UTIL     | UTIL     | UTIL       | UTIL    | REBATE/ | CUST     | CUST    | PARTIC.    | IN        | REV.       | REV.    | REV.    | IN     | REV.     |         | REVENUE |
|         | NONREC. | RECUR    | PGM      | NONREC.    | RECUR.  | INCENT. | EQUIP    | O & M   | CUST       | CUST.     | - FUEL     | NONFUEL | REDUCT. | CUST.  | - FUEL I | NONFUEL | INC.    |
|         | COSTS   | COSTS    | COSTS    | REBATES    | REBATES | COSTS   | COSTS    | COSTS   | COSTS      | KWH       | PORTION    | PORTION | IN BILL | KWH    | PORTION  | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)  | \$(000)  | \$(000)    | \$(000) | \$(000) | \$(000)  | \$(000) | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000)  |         | \$(000) |
|         |         |          |          |            |         |         |          |         |            |           |            |         |         |        |          |         |         |
| 2010    | 3.0064  | 0.0000   | 3.0064   | 9.0000     | 0.0000  | 9.0000  | 18.0000  | 0.0000  | 18.0000    | 4.7986    | 0.1614     | 0.4096  | 0.5710  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2011    | 3.0816  | 0.0000   | 3.0816   | 9.0000     | 0.0000  | 9.0000  | 18.4500  | 0.0000  | 18.4500    | 14.3959   | 0.5251     | 1.2534  | 1.7785  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2012    | 3.1586  | 0.0000   | 3.1586   | 9.0000     | 0.0000  | 9.0000  | 18.9113  | 0.0000  | 18.9113    | 23.9931   | 0.9434     | 2.1308  | 3.0742  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2013    | 3.2376  | 0.0000   | 3.2376   | 9.0000     | 0.0000  | 9.0000  | 19.3840  | 0.0000  | 19.3840    | 33.5904   | 1.3619     | 3.0428  | 4.4047  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2014    | 3.3185  | 0.0000   | 3.3185   | 9.0000     | 0.0000  | 9.0000  | 19.8686  | 0.0000  | 19.8686    | 43.1876   | 1.7900     | 3.9904  | 5.7804  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2015    | 3.4015  | 0.0000   | 3.4015   | 9.0000     | 0.0000  | 9.0000  | 20.3653  | 0.0000  | 20.3653    | 52.7849   | 2.2895     | 4.9747  | 7.2641  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2016    | 3.4865  | 0.0000   | 3.4865   | 9.0000     | 0.0000  | 9.0000  | 20.8745  | 0.0000  | 20.8745    | 62.3821   | 2.7958     | 5.9967  | 8.7926  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 3.5737  | 0.0000   | 3.5737   | 9.0000     | 0.0000  | 9.0000  | 21.3963  | 0.0000  | 21.3963    | 71.9794   | 3.3629     | 7.0577  | 10.4206 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2018    | 3.6630  | 0.0000   | 3.6630   | 9.0000     | 0.0000  | 9.0000  | 21.9313  | 0.0000  | 21.9313    | 81.5766   | 3.9641     | 8.1587  | 12.1228 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2019    | 3.7546  | 0.0000   | 3.7546   | 9.0000     | 0.0000  | 9.0000  | 22.4795  | 0.0000  | 22.4795    | 91.1739   | 4.6837     | 9.3009  | 13.9846 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
|         |         |          |          |            |         |         |          |         |            |           |            |         |         |        |          |         |         |
| NOMINAL | 33.6822 | 0.0000   | 33.6822  | 90.0000    | 0.0000  | 90.0000 | 201.6609 | 0.0000  | 201.6609   | 479,8625  | 21.8777    | 46.3157 | 68.1935 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
|         |         |          |          |            |         |         |          |         |            |           |            |         |         |        |          |         |         |
| NPV     | 24.0317 | 0.0000   | 24.0317  | 65.2220    | 0.0000  | 65.2220 | 143.8819 | 0.0000  | 143.8819   |           | 13.6201    | 29.0889 | 42.7090 |        | 0.0000   | 0.0000  | 0.0000  |
|         |         |          |          |            |         |         |          |         |            |           |            |         |         |        |          |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)     | (2)     | (3)       | (4)      | (5)      | (6)     | (7)     | (8)      | (9)     | (10)             | (11)      | (12)       | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|-----------|----------|----------|---------|---------|----------|---------|------------------|-----------|------------|---------|---------|--------|---------|---------|---------|
|         | < UTILI | TY PROGRA | AM COSTS | & REBATE | S       | >       | <        | PARTIO  | CIPATING C       | USTOMER C | COSTS & BE | NEFITS  |         |        |         |         | >       |
|         |         |           | TOTAL    |          |         | TOTAL   | PARTIC.  | PARTIC. | TOTAL            | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL      | UTIL     | UTIL     | UTIL    | REBATE/ | CUST     | CUST    | PARTIC.          | ĪΝ        | REV.       | REV.    | REV.    | IN     | REV.    |         | REVENUE |
|         | NONREC. | RECUR     | PGM      | NONREC.  | RECUR.  | INCENT. | EQUIP    | O & M   | CUST             | CUST.     | - FUEL     | NONFUEL | REDUCT. | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | COSTS     | COSTS    | REBATES  | REBATES | COSTS   | COSTS    | COSTS   | COSTS            | KWH       | PORTION    | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000) | \$(000)          | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |           |          |          |         |         |          |         |                  |           |            |         |         |        |         |         |         |
| 2010    |         | 0.0000    | 0.1128   | 2.1000   | 0.0000  | 2.1000  | 15.5089  | 0.0000  | 15.5089          | 0.1800    | 0.0061     | 0.0154  | 0.0214  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.1156  | 0.0000    | 0.1156   | 2.1000   | 0.0000  | 2.1000  | 15.8966  | 0.0000  | 15.8 <b>96</b> 6 | 0.5400    | 0.0197     | 0.0470  | 0.0667  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.1185  | 0.0000    | 0.1185   | 2.1000   | 0.0000  | 2.1000  | 16.2940  | 0.0000  | 16.2940          | 0.9001    | 0.0354     | 0.0799  | 0.1153  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.1215  | 0.0000    | 0.1215   | 2.1000   | 0.0000  | 2.1000  | 16.7013  | 0.0000  | 16.7013          | 1.2601    | 0.0511     | 0.1141  | 0.1652  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 0.1245  | 0.0000    | 0.1245   | 2.1000   | 0.0000  | 2.1000  | 17.1189  | 0.0000  | 17.1189          | 1.6201    | 0.0671     | 0.1497  | 0.2168  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 0.1276  | 0.0000    | 0.1276   | 2.1000   | 0.0000  | 2.1000  | 17.5468  | 0.0000  | 17.5468          | 1.9801    | 0.0859     | 0.1866  | 0.2725  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 0.1308  | 0.0000    | 0.1308   | 2.1000   | 0.0000  | 2.1000  | 17.9855  | 0.0000  | 17.9855          | 2.3401    | 0.1049     | 0.2250  | 0.3298  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 0.1341  | 0.0000    | 0.1341   | 2.1000   | 0.0000  | 2.1000  | 18.4351  | 0.0000  | 18.4351          | 2.7002    | 0.1262     | 0.2648  | 0.3909  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 0.1374  | 0.0000    | 0.1374   | 2.1000   | 0.0000  | 2.1000  | 18.8960  | 0.0000  | 18.8960          | 3.0602    | 0.1487     | 0.3061  | 0.4548  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 0.1409  | 0.0000    | 0.1409   | 2.1000   | 0.0000  | 2.1000  | 19.3684  | 0.0000  | 19.3684          | 3.4202    | 0.1757     | 0.3489  | 0.5246  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |          |         |                  |           |            |         |         |        |         |         |         |
| NOMINAL | 1.2636  | 0.0000    | 1.2636   | 21.0000  | 0.0000  | 21.0000 | 173.7516 | 0.0000  | 173.7516         | 18.0010   | 0.8207     | 1.7374  | 2.5581  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |          |         |                  |           |            |         |         |        |         |         |         |
| NPV     | 0.9016  | 0.0000    | 0.9016   | 15.2185  | 0.0000  | 15.2185 | 123.9690 | 0.0000  | 123.9690         |           | 0.5109     | 1.0912  | 1.6021  |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Single Family Survey Walk Through

| (1)     | (2)        | (3)        | (4)        | (5)      | (6)     | (7)     | (8)     | (9)     | (10)     | (11)        | (12)       | (13)       | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|------------|------------|------------|----------|---------|---------|---------|---------|----------|-------------|------------|------------|------------|--------|---------|---------|---------|
|         | < UTI      | LITY PROGE | RAM COSTS  | & REBATE | S       | > ·     | <       | PARTIO  | CIPATING | CUSTOMER (  | COSTS & BE | ENEFITS    | ·          |        |         |         |         |
|         |            |            | momer      |          |         |         |         |         |          |             |            |            | EDDE GE    | 210    | D.C.    | D.C.    | EFFEOR  |
|         |            |            | TOTAL      |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL    | REDUCT.     | RED.       | RED.       |            | INC.   | INC.    | INC.    |         |
|         | UTIL       |            | UTIL       | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.  | IN          | REV.       | REV.       |            | IN     | REV.    |         | REVENUE |
|         | NONREC.    | RECUR      | PGM        | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST     | CUST.       | - FUEL     |            | REDUCT.    | CUST.  |         | NONFUEL | INC.    |
|         | COSTS      | COSTS      | COSTS      | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS    | KWH         | PORTION    | PORTION    | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)    | \$(000)    | \$(000)    | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)  | (000)       | \$(000)    | \$(000)    | \$(000)    | (000)  | \$(000) |         | \$(000) |
|         |            |            |            |          |         |         |         |         |          |             |            |            |            |        |         |         |         |
| 2010    | 442.1086   | 0.0000     | 442.1086   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 264,7095    | 8.9026     | 22.5956    | 31.4982    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 453.1614   | 0.0000     | 453.1614   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 794,1285    | 28.9643    | 69.1425    | 98.1069    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 464.4904   | 0.0000     | 464,4904   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 1,323.5475  | 52.0415    | 117.5423   | 169.5839   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 476.1027   | 0.0000     | 476.1027   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 1,852.9665  | 75,1261    | 167.8504   | 242.9765   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 488.0052   | 0.0000     | 488.0052   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 2,382.3855  | 98.7447    | 220.1239   | 318.8685   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 500.2054   | 0.0000     | 500.2054   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 2,911.8045  | 126,2952   | 274,4211   | 400.7162   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    |            | 0.0000     | 512.7105   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 3,441.2235  | 154,2270   | 330,8021   | 485.0292   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 525.5283   | 0.0000     | 525.5283   | 0.0000   | 0.0000  | 0.0000  |         |         |          | ,           | 185.5095   | 389.3287   | 574.8381   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |            |            |          |         |         | 0.0000  | 0.0000  | 0.0000   | 3,970.6425  |            |            |            |        |         |         |         |
| 2018    | 538.6665   | 0.0000     | 538.6665   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 4,500.0615  | 218.6753   | 450.0640   | 668.7393   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 552.1331   | 0.0000     | 552.1331   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 5,029.4805  | 258.3676   | 513.0729   | 771.4405   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |            |            |          |         |         |         |         |          |             |            |            |            |        |         |         |         |
| NOMINAL | 4,953.1120 | 0.0000     | 4,953.1120 | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   | 26,470.9500 | 1,206.8537 | 2,554.9435 | 3,761.7973 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |            |            |          |         |         |         |         |          |             |            |            |            |        |         |         |         |
| NPV     | 3,533.9676 | 0.0000     | 3,533.9676 | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000   |             | 751.3345   | 1,604.6499 | 2,355.9844 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Single Family Survey Video & DVDs

| (1)     | (2)      | (3)       | (4)       | (5)         | (6)         | (7)      | (8)     | (9)     | (10)     | (11)        | (12)        | (13)       | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|----------|-----------|-----------|-------------|-------------|----------|---------|---------|----------|-------------|-------------|------------|------------|--------|---------|---------|---------|
|         | < UTIL   | ITY PROGE | RAM COSTS | S & REBATE  | ES          | > ·      | <       | PARTIC  | CIPATING | CUSTOMER (  | COSTS & BE  | ENEFITS    |            |        |         | ••••    | >       |
|         |          |           | TOTAL     |             |             | TOTAL    | PARTIC. | PARTIC. | TOTAL    | REDUCT.     | RED.        | RED.       | EFFECT.    | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL     | UTIL      | UTIL      | UTIL        | UTIL        | REBATE/  | CUST    | CUST    | PARTIC.  | IN          | REV.        | REV.       | REV.       | IN     | REV.    |         | REVENUE |
|         | NONREC.  | RECUR     |           |             | RECUR.      | INCENT.  | EQUIP   | O & M   | CUST     | CUST.       |             | NONFUEL    | REDUCT.    | CUST.  |         | NONFUEL | INC.    |
|         | COSTS    | COSTS     |           | REBATES     |             | COSTS    | COSTS   | COSTS   | COSTS    | KWH         | PORTION     | PORTION    | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)  | \$(000)   | \$(000)   | \$(000)     | \$(000)     | \$(000)  | \$(000) | \$(000) | \$(000)  | (000)       | \$(000)     | \$(000)    | \$(000)    | (000)  | \$(000) |         | \$(000) |
|         |          | , ,       |           | <del></del> | <del></del> |          |         | , ,     |          | •           | <del></del> |            | `          |        |         |         |         |
| 2010    | 78.3091  | 0.0000    | 78.3091   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 118.9480    | 4.0004      | 10.1534    | 14.1538    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 80.2668  | 0.0000    | 80.2668   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 356.8440    | 13.0152     | 31.0694    | 44.0846    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 82.2735  | 0.0000    | 82.2735   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 594.7400    | 23.3850     | 52.8180    | 76.2030    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 84.3303  | 0.0000    | 84.3303   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 832.6360    | 33.7581     | 75.4241    | 109.1822   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 86.4386  | 0.0000    | 86.4386   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 1,070.5320  | 44.3712     | 98.9133    | 143.2845   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 88.5996  | 0.0000    | 88.5996   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 1,308.4280  | 56.7511     | 123.3119   | 180.0630   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 90.8145  | 0.0000    | 90.8145   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 1,546.3240  | 69.3024     | 148.6469   | 217.9493   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 93.0849  | 0.0000    | 93.0849   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 1,784.2200  | 83.3592     | 174.9460   | 258.3052   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 95.4120  | 0.0000    | 95.4120   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 2,022.1160  | 98.2624     | 202.2376   | 300.5000   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 97.7973  | 0.0000    | 97.7973   | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 2,260.0120  | 116.0982    | 230.5508   | 346.6491   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |           |           |             |             |          |         |         |          |             |             |            |            |        |         |         |         |
| NOMINAL | 877.3267 | 0.0000    | 877.3267  | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   | 11,894.8000 | 542.3033    | 1,148.0715 | 1,690.3748 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NIDA    | CTE 0590 | 0.0000    | 635 0500  | 0.0000      | 0.0000      | . 0.0000 | 0.0000  | 0.0000  | 0.0000   |             | 127 61 64   | 721.0542   | 1 060 6607 |        | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 625.9588 | 0.0000    | 625.9588  | 0.0000      | 0.0000      | 0.0000   | 0.0000  | 0.0000  | 0.0000   |             | 337.6144    | /21.0542   | 1,058.6686 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Single Family Survey On Line

| (1)     | (2)      | (3)       | (4)       | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)       | (12)       | (13)     | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|----------|-----------|-----------|----------|---------|---------|---------|---------|------------|------------|------------|----------|------------|--------|---------|---------|---------|
|         | < UTIL   | ITY PROGI | RAM COSTS | & REBATE | S       | ·> ·    | <       | PARTIO  | CIPATING ( | CUSTOMER C | COSTS & BE | NEFITS   |            |        |         |         | >       |
|         |          |           | TOTAL     |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.    | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL     | UTIL      | UTIL      | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.       | INC.   | REV.    |         | REVENUE |
|         | NONREC.  | RECUR     |           | NONREC.  | RECUR.  | INCENT. | EQUIP   | 0 & M   | CUST       | CUST.      |            | NONFUEL  | REDUCT.    | CUST.  |         | NONFUEL | INC.    |
|         | COSTS    | COSTS     | COSTS     | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)  | \$(000)   | \$(000)   | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)    | (000)  | \$(000) |         | \$(000) |
|         |          |           |           |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| 2010    |          | 0.0000    | 75.6868   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 86.4600    | 2.9078     | 7.3802   | 10.2880    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 77.5790  | 0.0000    | 77.5790   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 259.3800   | 9.4604     | 22.5835  | 32.0439    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 79.5185  | 0.0000    | 79.5185   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 432.3000   | 16.9979    | 38.3919  | 55.3899    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 81.5064  | 0.0000    | 81.5064   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 605.2200   | 24.5378    | 54.8237  | 79.3615    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 83.5441  | 0.0000    | 83.5441   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 778.1400   | 32.2522    | 71.8973  | 104.1495   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 85.6327  | 0.0000    | 85.6327   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 951.0600   | 41.2508    | 89.6320  | 130.8828   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 87.7735  | 0.0000    | 87.7735   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,123.9800 | 50.3740    | 108.0473 | 158.4213   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 89.9678  | 0.0000    | 89.9678   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,296.9000 | 60.5915    | 127.1634 | 187.7549   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 92.2170  | 0.0000    | 92.2170   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,469.8200 | 71.4242    | 147.0009 | 218.4251   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 94.5225  | 0.0000    | 94.5225   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,642.7400 | 84.3886    | 167.5810 | 251.9696   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |           |           |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| NOMINAL | 847.9483 | 0.0000    | 847.9483  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 8,646.0000 | 394.1852   | 834.5013 | 1,228.6865 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |           |           |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| NPV     | 604.9978 | 0.0000    | 604.9978  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     |            | 245.4025   | 524.1143 | 769.5168   |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)     | (3)       | (4)      | (5)      | (6)     | (7)     | (8)        | (9)     | (10)        | (11)       | (12)       | (13)     | (14)     | (15)   | (16)    | (17)    | (18)    |
|---------|---------|-----------|----------|----------|---------|---------|------------|---------|-------------|------------|------------|----------|----------|--------|---------|---------|---------|
|         | < UTIL  | ITY PROGR | AM COSTS | & REBATE | S       | >       | <          | PART    | ICIPATING ( | CUSTOMER ( | COSTS & BE | NEFITS   | <b></b>  |        |         |         | >       |
|         |         |           | TOTAL    |          |         | TOTAL   | PARTIC.    | PARTIC. | TOTAL       | REDUCT.    | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL      | UTIL     | UTIL     | UTIL    | REBATE/ |            | CUST    | PARTIC.     | [N         | REV.       | REV.     | REV.     | IN     | REV.    | REV.    | REVENUE |
|         | NONREC. | RECUR     | PGM      | NONREC.  | RECUR.  | INCENT. | EQUIP      | 0 & M   | CUST        | CUST.      | - FUEL     | NONFUEL  | REDUCT.  | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | COSTS     | COSTS    | REBATES  | REBATES | COSTS   | COSTS      | COSTS   | COSTS       | KWH        | PORTION    | PORTION  | IN BILL  | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)    | \$(000) | \$(000)     | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) |         | \$(000) |
|         |         |           |          |          |         |         |            |         |             |            |            |          |          |        |         |         |         |
| 2010    |         | 0.0000    | 7.4809   | 9.0000   | 0.0000  | 9.0000  | 180.6846   | 0.0000  | 180.6846    | 20.5200    | 0.6901     | 1.7516   | 2.4417   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 7.6679  | 0.0000    | 7.6679   | 9.0000   | 0.0000  | 9.0000  | 185.2017   | 0.0000  | 185.2017    | 61.5600    | 2.2453     | 5.3599   | 7.605 I  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 7.8596  | 0.0000    | 7.8596   | 9.0000   | 0.0000  | 9.0000  | 189.8318   | 0.0000  | 189.8318    | 102.6000   | 4.0342     | 9,1118   | 13.1460  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 8.0561  | 0.0000    | 8.0561   | 9.0000   | 0.0000  | 9.0000  | 194.5776   | 0.0000  | 194.5776    | 143,6400   | 5.8237     | 13.0116  | 18.8353  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 8.2575  | 0.0000    | 8.2575   | 9.0000   | 0.0000  | 9.0000  | 199.4420   | 0.0000  | 199.4420    | 184.6800   | 7.6546     | 17.0638  | 24.7183  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 8.4639  | 0.0000    | 8.4639   | 9.0000   | 0.0000  | 9.0000  | 204.4280   | 0.0000  | 204.4280    | 225.7200   | 9.7903     | 21.2728  | 31.0631  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 8.6755  | 0.0000    | 8.6755   | 9.0000   | 0.0000  | 9.0000  | 209.5387   | 0.0000  | 209.5387    | 266.7600   | 11.9555    | 25.6434  | 37.5989  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 8.8924  | 0.0000    | 8.8924   | 9.0000   | 0.0000  | 9.0000  | 214.7772   | 0.0000  | 214,7772    | 307.8000   | 14.3805    | 30.1803  | 44.5608  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 9.1147  | 0.0000    | 9.1147   | 9.0000   | 0.0000  | 9.0000  | 220.1466   | 0.0000  | 220.1466    | 348.8400   | 16.9515    | 34.8885  | 51.8400  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 9.3426  | 0.0000    | 9.3426   | 9.0000   | 0.0000  | 9.0000  | 225.6503   | 0.0000  | 225.6503    | 389.8800   | 20.0284    | 39.7729  | 59.8012  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |            |         |             |            |            |          |          |        |         |         |         |
| NOMINAL | 83.8109 | 0.0000    | 83.8109  | 90.0000  | 0.0000  | 90.0000 | 2.024.2786 | 0.0000  | 2,024.2786  | 2,052,0000 | 93,5540    | 198.0565 | 291.6105 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         | ·          |         | •           | ŕ          |            |          |          |        |         |         |         |
| NPV     | 59.7978 | 0.0000    | 59.7978  | 65.2220  | 0.0000  | 65.2220 | 1,444.2909 | 0.0000  | 1,444.2909  |            | 58.2427    | 124.3908 | 182.6334 |        | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |            |         |             |            |            |          |          |        |         |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)      | (3)        | (4)       | (5)        | (6)     | (7)      | (8)             | (9)             | (10)       | (11)       | (12)       | (13)     | (14)     | (15)   | (16)    | (17)     | (18)    |
|---------|----------|------------|-----------|------------|---------|----------|-----------------|-----------------|------------|------------|------------|----------|----------|--------|---------|----------|---------|
|         | < UTI    | LITY PROGE | RAM COSTS | S & REBATE | S       | >        | <               | PARTI           | CIPATING ( | CUSTOMER ( | COSTS & BI | ENEFITS  |          |        |         |          | >       |
|         |          |            | TOTAL     |            |         | TOTAL    | DADTIC          | DARTIC          | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.     | EFFECT, |
|         | UTIL     | UTIL       | UTIL      | UTIL       | UTIL    |          | PARTIC.<br>CUST | PARTIC.<br>CUST | PARTIC.    | IN         | REV.       | REV.     | REV.     | INC.   | REV.    |          | REVENUE |
|         | NONREC.  |            |           | NONREC.    | RECUR.  | INCENT.  | EQUIP           | 0 & M           | CUST       | CUST.      |            | NONFUEL  | REDUCT.  | CUST.  |         | NONFUEL  | INC.    |
|         | COSTS    |            |           | REBATES    |         | COSTS    | COSTS           | COSTS           | COSTS      | KWH        |            |          | IN BILL  |        | PORTION |          | IN BILL |
| YEAR    |          |            | \$(000)   |            | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) | 10011011 | \$(000) |
| LILING  | <u> </u> | 3(000)     | 3(000)    | 3(000)     | 3(000)  | \$(000)  | #(000)          | 3(000)          | 3(000)     | (000)      | \$(000)    | 3(000)   | 3(000)   | (000)  | \$(000) |          | \$(000) |
| 2010    | 17.9541  | 0.0000     | 17.9541   | 21.6000    | 0.0000  | 21.6000  | 348.8270        | 0.0000          | 348.8270   | 42.0480    | 1,4141     | 3.5892   | 5.0034   | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2011    | 18.4029  | 0.0000     | 18.4029   | 21.6000    | 0.0000  | 21.6000  | 357.5477        | 0.0000          | 357.5477   | 126.1440   | 4.6009     | 10.9830  | 15.5839  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2012    | 18.8630  | 0.0000     | 18.8630   | 21.6000    | 0.0000  | 21.6000  | 366.4864        | 0.0000          | 366.4864   | 210,2400   | 8.2666     | 18.6711  | 26.9377  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2013    | 19.3346  | 0.0000     | 19.3346   | 21.6000    | 0.0000  | 21.6000  | 375.6486        | 0.0000          | 375.6486   | 294.3360   | 11.9335    | 26.6623  | 38.5958  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2014    | 19.8179  | 0.0000     | 19.8179   | 21.6000    | 0.0000  | 21.6000  | 385.0398        | 0.0000          | 385.0398   | 378.4320   | 15,6852    | 34.9658  | 50.6509  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2015    | 20,3134  | 0.0000     | 20.3134   | 21.6000    | 0.0000  | 21.6000  | 394.6658        | 0.0000          | 394.6658   | 462.5280   | 20.0615    | 43.5906  | 63.6521  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2016    | 20.8212  | 0.0000     | 20.8212   | 21.6000    | 0.0000  | 21.6000  | 404.5324        | 0.0000          | 404.5324   | 546.6240   | 24.4983    | 52.5465  | 77.0449  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2017    | 21.3417  | 0.0000     | 21.3417   | 21.6000    | 0.0000  | 21.6000  | 414.6457        | 0.0000          | 414.6457   | 630.7200   | 29.4674    | 61.8432  | 91.3106  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2018    | 21.8753  | 0.0000     | 21.8753   | 21.6000    | 0.0000  | 21.6000  | 425.0119        | 0.0000          | 425.0119   | 714.8160   | 34.7357    | 71.4908  | 106.2264 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2019    | 22.4222  | 0.0000     | 22.4222   | 21,6000    | 0.0000  | 21.6000  | 435.6372        | 0.0000          | 435.6372   | 798.9120   | 41.0406    | 81.4995  | 122.5401 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
|         |          |            |           |            |         |          |                 |                 |            |            |            |          |          |        |         |          |         |
| NOMINAL | 201.1462 | 0.0000     | 201.1462  | 216.0000   | 0.0000  | 216.0000 | 3,908.0425      | 0.0000          | 3,908.0425 | 4,204.8000 | 191.7037   | 405.8421 | 597.5458 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
|         |          |            |           |            |         |          |                 |                 |            |            |            |          |          |        |         |          |         |
| NPV     | 143.5147 | 0.0000     | 143.5147  | 156.5328   | 0.0000  | 156.5328 | 2,788.3269      | 0.0000          | 2,788.3269 |            | 119.3464   | 254.8919 | 374.2383 |        | 0.0000  | 0.0000   | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)      | (3)             | (4)       | (5)      | (6)     | (7)             | (8)        | (9)     | (10)       | (11)       | (12)       | (13)     | (14)     | (15)   | (16)    | (17)    | (18)    |
|---------|----------|-----------------|-----------|----------|---------|-----------------|------------|---------|------------|------------|------------|----------|----------|--------|---------|---------|---------|
|         | < UTIL   | ITY PROGE       | RAM COSTS | & REBATE | S       | >               | <          | PART    | CIPATING ( | CUSTOMER ( | COSTS & BI | ENEFITS  |          |        |         |         | >       |
|         |          |                 |           |          |         |                 |            |         |            |            |            |          |          |        |         |         |         |
|         |          |                 | TOTAL     |          |         | TOTAL           | PARTIC.    | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL     | UTIL            | UTIL      | UTIL     | UTIL    | REBATE/         | CUST       | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.     | IN     | REV.    | REV.    | REVENUE |
|         | NONREC.  | RECUR           | PGM       | NONREC.  | RECUR.  | INCENT.         | EQUIP      | O & M   | CUST       | CUST.      | - FUEL     | NONFUEL  | REDUCT.  | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS    | COSTS           | COSTS     | REBATES  | REBATES | COSTS           | COSTS      | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL  | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)  | <b>\$</b> (000) | \$(000)   | \$(000)  | \$(000) | <b>\$</b> (000) | \$(000)    | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) |         | \$(000) |
|         |          |                 |           |          |         |                 |            |         |            |            |            |          |          |        | •       |         |         |
| 2010    | 27.4298  | 0.0000          | 27.4298   | 33.0000  | 0.0000  | 33.0000         | 408.5070   | 0.0000  | 408.5070   | 51.2600    | 1.7240     | 4.3756   | 6.0995   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 28.1156  | 0.0000          | 28.1156   | 33.0000  | 0.0000  | 33.0000         | 418.7197   | 0.0000  | 418.7197   | 153.7800   | 5.6088     | 13.3892  | 18.9980  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 28.8185  | 0.0000          | 28.8185   | 33.0000  | 0.0000  | 33.0000         | 429.1877   | 0.0000  | 429,1877   | 256.3000   | 10.0776    | 22.7616  | 32.8393  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 29.5389  | 0.0000          | 29.5389   | 33.0000  | 0.0000  | 33.0000         | 439.9174   | 0.0000  | 439.9174   | 358.8200   | 14.5479    | 32.5036  | 47.0515  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 30,2774  | 0.0000          | 30.2774   | 33.0000  | 0.0000  | 33.0000         | 450.9153   | 0.0000  | 450.9153   | 461.3400   | 19.1215    | 42.6262  | 61.7477  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 31.0343  | 0.0000          | 31.0343   | 33.0000  | 0.0000  | 33.0000         | 462.1882   | 0.0000  | 462.1882   | 563.8600   | 24.4566    | 53.1406  | 77.5972  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 31.8102  | 0.0000          | 31.8102   | 33.0000  | 0.0000  | 33.0000         | 473.7429   | 0.0000  | 473.7429   | 666.3800   | 29.8655    | 64.0586  | 93.9241  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 32.6054  | 0.0000          | 32.6054   | 33.0000  | 0.0000  | 33.0000         | 485.5865   | 0.0000  | 485.5865   | 768.9000   | 35.9232    | 75.3920  | 111.3152 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 33.4206  | 0.0000          | 33.4206   | 33.0000  | 0.0000  | 33.0000         | 497.7261   | 0.0000  | 497.7261   | 871.4200   | 42.3457    | 87.1532  | 129.4989 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 34.2561  | 0.0000          | 34.2561   | 33.0000  | 0.0000  | 33.0000         | 510.1693   | 0.0000  | 510.1693   | 973.9400   | 50.0319    | 99.3546  | 149.3865 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |                 |           |          |         |                 |            |         |            |            |            |          |          |        |         |         |         |
| NOMINAL | 307.3067 | 0.0000          | 307.3067  | 330.0000 | 0.0000  | 330.0000        | 4,576.6599 | 0.0000  | 4,576.6599 | 5,126.0000 | 233.7027   | 494.7552 | 728.4579 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |                 |           |          |         |                 |            |         |            |            |            |          |          |        |         |         |         |
| NPV     | 219.2585 | 0.0000          | 219.2585  | 239.1473 | 0.0000  | 239.1473        | 3,265.3749 | 0.0000  | 3,265.3749 |            | 145.4931   | 310.7344 | 456.2275 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

|          | (1)  | (2)        | (3)      | (4)        | (5)      | (6)     | (7)      | (8)              | (9)     | (10)       | (11)        | (12)        | (13)       | (14)       | (15)   | (16)    | (17)    | (18)    |
|----------|------|------------|----------|------------|----------|---------|----------|------------------|---------|------------|-------------|-------------|------------|------------|--------|---------|---------|---------|
|          |      | < UTIL     | ITY PROG | RAM COSTS  | & REBATE | S       | >        | <                | PARTI   | CIPATING ( | CUSTOMER O  | COSTS & BE  | ENEFITS    |            |        |         |         | >       |
|          |      |            |          | TOTAL      |          |         | TOTAL    | DARTIC           | DADTIC  | TOTAL      | DEDLICE     | nrn         | DED        | PEPECT     | DIC    | INC.    | INC.    | EFFECT. |
|          |      | LUDIT      | T ferrer | TOTAL      | * 1/2/** |         | TOTAL    |                  | PARTIC. | TOTAL      | REDUCT.     | RED.        | RED.       | EFFECT.    | INC.   |         |         |         |
|          |      | UTIL       | UTIL     |            | UTIL     | UTIL    | REBATE/  | CUST             | CUST    | PARTIC.    | IN          | REV.        | REV.       | REV.       | IN     | REV.    |         | REVENUE |
|          |      | NONREC.    | RECUR    |            | NONREC.  | RECUR.  | INCENT.  | EQUIP            | O & M   | CUST       | CUST.       |             | NONFUEL    | REDUCT.    | CUST.  |         | NONFUEL | INC.    |
|          |      | COSTS      | COSTS    | COSTS      | REBATES  | REBATES | COSTS    | COSTS            | COSTS   | COSTS      | KWH         | PORTION     | PORTION    | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| <u>Y</u> | EAR  | \$(000)    | \$(000)  | \$(000)    | \$(000)  | \$(000) | \$(000)  | \$(000)          | \$(000) | \$(000)    | (000)       | \$(000)     | \$(000)    | \$(000)    | (000)  | \$(000) |         | \$(000) |
|          |      |            |          |            |          |         |          |                  |         |            |             |             |            |            |        |         |         |         |
|          | 2010 | 95.5056    | 0.0000   | 95.5056    | 76.6000  | 0.0000  | 76.6000  | 1,007.0525       | 0.0000  | 1,007.0525 | 140.1780    | 4.7144      | 11.9656    | 16.6800    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2011 | 97.8933    | 0.0000   | 97.8933    | 76.6000  | 0.0000  | 76.6000  | 1,032.2289       | 0.0000  | 1,032.2289 | 420,5340    | 15.3382     | 36.6147    | 51.9529    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2012 | 100.3406   | 0.0000   | 100.3406   | 76.6000  | 0.0000  | 76.6000  | 1,058.0346       | 0.0000  | 1,058.0346 | 700.8900    | 27.5588     | 62,2450    | 89,8038    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2013 | 102.8491   | 0.0000   | 102.8491   | 76,6000  | 0.0000  | 76,6000  | 1,084,4854       | 0.0000  | 1.084.4854 | 981,2460    | 39.7833     | 88.8859    | 128.6692   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2014 | 105.4204   | 0.0000   | 105,4204   | 76.6000  | 0.0000  | 76.6000  | 1,111.5976       | 0.0000  | 1.111.5976 | 1,261.6020  | 52.2906     | 116.5675   | 168.8581   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2015 | 108.0559   | 0.0000   | 108.0559   | 76,6000  | 0.0000  |          | 1,139.3875       |         | 1.139.3875 | 1,541,9580  | 66.8801     | 145.3208   | 212,2009   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2016 |            | 0.0000   | 110.7573   | 76.6000  | 0.0000  |          | 1,167.8722       |         | 1,167.8722 | 1,822,3140  | 81.6716     | 175.1776   | 256.8492   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2017 | 113.5262   | 0.0000   | 113.5262   | 76.6000  | 0.0000  |          | 1,197.0690       |         | 1,197.0690 | 2,102.6700  | 98.2373     | 206.1706   | 304.4079   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2018 | 116.3644   | 0.0000   | 116.3644   | 76.6000  | 0.0000  |          | 1,226,9957       |         | 1.226.9957 | 2,383.0260  | 115.8004    | 238.3332   | 354.1336   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2019 |            | 0.0000   | 119.2735   | 76.6000  | 0.0000  |          | ,                |         | 1,257.6706 | 2,563.3820  | 136.8196    | 271.6999   | 408.5195   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          | 2019 | 119.2733   | 0.0000   | 119.2755   | 70.0000  | 0.0000  | 70.0000  | 1,257.6706       | 0.0000  | 1,237.0700 | 2,003.3820  | 130.6190    | 211.0999   | 400.3193   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 710741   |      | 1.000.0000 | 0.000    | 1.000.000  | 566,0000 | 0.0000  |          | tra tra mara tra |         |            | 14 017 0000 | - C30 00 12 | 1 353 0000 | 1 000 0751 | 0.0000 |         | 0.0000  | 0.0000  |
| NOM      | NAL  | 1,069.9862 | 0.0000   | 1,069.9862 | 766.0000 | 0.0000  | 766.0000 | ########         | 0.0000  | ########   | 14,017.8000 | 639.0943    | 1,352.9808 | 1,992.0751 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|          |      |            |          |            |          |         |          |                  |         |            |             |             |            |            |        |         | 0.0000  |         |
|          | NPV  | 763,4184   | 0.0000   | 763.4184   | 555.1116 | 0.0000  | 555.1116 | 8,049.8109       | 0.0000  | 8,049.8109 |             | 397.8723    | 849.7489   | 1,247.6212 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)      | (3)      | (4)       | (5)       | (6)     | (7)     | (8)        | (9)        | (10)        | (11)       | (12)       | (13)     | (14)            | (15)   | (16)    | (17)    | (18)    |
|---------|----------|----------|-----------|-----------|---------|---------|------------|------------|-------------|------------|------------|----------|-----------------|--------|---------|---------|---------|
|         | < UTILI1 | Y PROGRA | M COSTS & | REBATES - |         | ·> ·    | <          | - PARTICIP | ATING CUSTO | MER COSTS  | & BENEFIT: | S        |                 |        |         |         | >       |
|         |          |          |           |           |         |         |            |            |             |            |            |          |                 |        |         | B.C.    | PPPPO   |
|         |          | _        | TOTAL     |           |         | TOTAL   | PARTIC.    | PARTIC.    | TOTAL       | REDUCT.    | RED.       | RED.     | EFFECT.         | INC.   | INC.    | INC.    |         |
|         | UTIL     | UTIL     | UTIL      | UTIL      | UTIL    | REBATE/ | CUST       | CUST       | PARTIC.     | IN         | REV.       | REV.     | REV.            | IN     | REV.    |         | REVENUE |
|         | NONREC.  | RECUR    | PGM       | NONREC.   | RECUR.  | INCENT. | EQUIP      | O & M      | CUST        | CUST.      | - FUEL     | NONFUEL  | REDUCT.         | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS    | COSTS    | COSTS     | REBATES   | REBATES | COSTS   | COSTS      | COSTS      | COSTS       | KWH        | PORTION    | PORTION  | IN BILL         | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)  | \$(000)  | \$(000)   | \$(000)   | \$(000) | \$(000) | \$(000)    | \$(000)    | \$(000)     | (000)      | \$(000)    | \$(000)  | <b>\$</b> (000) | (000)  | \$(000) |         | \$(000) |
|         |          |          |           |           |         |         |            |            |             |            |            |          |                 |        |         |         |         |
| 2010    | 22.4426  | 0.0000   | 22.4426   | 9.0000    | 0.0000  | 9.0000  | 143.2728   | 0.0000     | 143.2728    | 18.7200    | 0.6296     | 1.5979   | 2.2275          | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 23.0036  | 0.0000   | 23.0036   | 9.0000    | 0.0000  | 9.0000  | 146.8546   | 0.0000     | 146.8546    | 56.1600    | 2.0483     | 4.8897   | 6.9380          | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 23.5787  | 0.0000   | 23.5787   | 9.0000    | 0.0000  | 9.0000  | 150.5260   | 0.0000     | 150.5260    | 93.6000    | 3.6803     | 8.3125   | 11.9928         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 24,1682  | 0.0000   | 24.1682   | 9.0000    | 0.0000  | 9.0000  | 154.2891   | 0.0000     | 154,2891    | 131.0400   | 5.3128     | 11.8702  | 17.1831         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 24,7724  | 0.0000   | 24,7724   | 9.0000    | 0.0000  | 9.0000  | 158.1464   | 0.0000     | 158,1464    | 168,4800   | 6.9831     | 15.5669  | 22.5501         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 25.3917  | 0.0000   | 25.3917   | 9.0000    | 0.0000  | 9.0000  | 162,1000   | 0.0000     | 162.1000    | 205,9200   | 8.9315     | 19,4068  | 28.3383         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 26.0265  | 0.0000   | 26.0265   | 9.0000    | 0.0000  | 9.0000  | 166.1525   | 0.0000     | 166,1525    | 243,3600   | 10.9068    | 23,3940  | 34.3008         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 26,6772  | 0.0000   | 26.6772   | 9.0000    | 0.0000  | 9.0000  | 170.3063   | 0.0000     | 170.3063    | 280.8000   | 13.1191    | 27.5329  | 40.6520         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 27.3441  | 0.0000   | 27.3441   | 9.0000    | 0.0000  | 9.0000  | 174.5640   | 0.0000     | 174.5640    | 318.2400   | 15.4645    | 31.8281  | 47,2926         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 28.0277  | 0.0000   | 28.0277   | 9.0000    | 0.0000  | 9.0000  | 178.9281   | 0.0000     | 178.9281    | 355.6800   | 18.2715    | 36.2840  | 54,5555         | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 20.0217  | 0.0000   | 20.0217   | 7.0000    | 0.0000  | 2.0000  | 170.7201   | 0.0000     | 170.7201    | 333.0000   | 10.2715    | 30.2010  | 31.3333         | 0.0000 | 0.0000  | 0,000   | 0.0000  |
| NOMINAL | 251.4328 | 0.0000   | 251.4328  | 90.0000   | 0.0000  | 90.0000 | 1,605.1399 | 0.0000     | 1,605,1399  | 1,872.0000 | 85.3475    | 180.6831 | 266.0307        | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| HOMINAL | 231,4320 | 0.0000   | 231.4320  | 30.0000   | 0.0000  | 30.0000 | 1,003.1377 | 0.0000     | 1,003.1399  | 1,072.0000 | 05.5415    | 100.0031 | 200,0307        | 0.0000 | 5.0000  | 0,0000  | 0.0000  |
| NPV     | 179,3933 | 0.0000   | 179.3933  | 65,2220   | 0.0000  | 65 2220 | 1 145 2421 | 0.0000     | 1 145 2421  |            | 53.1337    | 113.4793 | 166.6129        |        | 0.0000  | 0.0000  | 0.0000  |
| Nrv     | 179,3933 | 0.0000   | 1 /9.3933 | 05.2220   | 0.0000  | 65.2220 | 1,145.2421 | 0.0000     | 1,145.2421  |            | 33.1337    | 115.4793 | 100.0129        |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Multi Family Survey Walk Through

| (1)     | (2)        | (3)      | (4)        | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)       | (12)       | (13)     | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|------------|----------|------------|----------|---------|---------|---------|---------|------------|------------|------------|----------|------------|--------|---------|---------|---------|
|         | < UTIL     | ITY PROG | RAM COSTS  | & REBATE | S       | > •     | <       | PARTIO  | CIPATING ( | CUSTOMER C | COSTS & BE | NEFITS   |            |        |         |         | >       |
|         |            |          | TOTAL      |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.    | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL       | UTIL     | UTIL       | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.       | IN     | REV.    | REV.    | REVENUE |
|         | NONREC.    | RECUR    | PGM        | NONREC.  | RECUR.  | INCENT. | EQUIP   | 0 & M   | CUST       | CUST.      | - FUEL     | NONFUEL  | REDUCT.    | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS      | COSTS    | COSTS      | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)    | \$(000)  | \$(000)    | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)    | (000)  | \$(000) |         | \$(000) |
| -       |            |          |            |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| 2010    | 172.5010   | 0.0000   | 172.5010   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 86.3000    | 2.9024     | 7.3666   | 10.2690    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 176.8135   | 0.0000   | 176.8135   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 258.9000   | 9.4429     | 22.5417  | 31.9846    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 181.2338   | 0.0000   | 181.2338   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 00000   | 0.0000     | 431.5000   | 16.9665    | 38.3209  | 55.2874    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 185.7647   | 0.0000   | 185.7647   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 604.1000   | 24.4924    | 54.7222  | 79.2147    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 190.4088   | 0.0000   | 190.4088   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 776.7000   | 32.1925    | 71.7643  | 103.9568   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 195.1690   | 0.0000   | 195.1690   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 949.3000   | 41.1745    | 89.4661  | 130.6406   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 200.0482   | 0.0000   | 200.0482   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,121.9000 | 50.2808    | 107.8474 | 158.1281   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 205.0494   | 0.0000   | 205.0494   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,294.5000 | 60.4794    | 126.9281 | 187.4074   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 210.1757   | 0.0000   | 210.1757   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,467.1000 | 71.2920    | 146.7288 | 218.0209   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 215.4301   | 0.0000   | 215.4301   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,639.7000 | 84.2324    | 167.2709 | 251.5033   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |          |            |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| NOMINAL | 1,932.5942 | 0.0000   | 1,932.5942 | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 8,630.0000 | 393.4557   | 832.9570 | 1,226.4127 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |          |            |          |         |         |         |         |            |            |            |          |            |        |         |         |         |
| NPV     | 1,378.8756 | 0.0000   | 1,378.8756 | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     |            | 244.9484   | 523.1444 | 768.0928   |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)     | (2)      | (3)        | (4)       | (5)      | (6)     | (7)      | (8)     | (9)     | (10)       | (11)       | (12)       | (13)     | (14)     | (15)   | (16)    | (17)    | (18)      |
|---------|----------|------------|-----------|----------|---------|----------|---------|---------|------------|------------|------------|----------|----------|--------|---------|---------|-----------|
|         | < UTII   | LITY PROGE | RAM COSTS | & REBATE | S       | ····-> · | <       | PARTIO  | CIPATING ( | CUSTOMER C | COSTS & BE | NEFITS   |          |        |         |         | >         |
|         |          |            |           |          |         |          |         |         |            |            |            |          |          |        | n.a     | 810     | PIETE CON |
|         |          |            | TOTAL     |          |         | TOTAL    | PARTIC. | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.    | EFFECT.   |
|         | UTIL     | UTIL       | UTIL      | UTIL     | UTIL    | REBATE/  | CUST    | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.     | IN     | REV.    |         | REVENUE   |
|         | NONREC.  | RECUR      | PGM       | NONREC.  | RECUR.  | INCENT,  | EQUIP   | O & M   | CUST       | CUST.      | - FUEL     | NONFUEL  | REDUCT.  | CUST.  |         | NONFUEL | INC.      |
|         | COSTS    | COSTS      | COSTS     | REBATES  | REBATES | COSTS    | COSTS   | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL  | KWH    | PORTION | PORTION | IN BILL   |
| YEAR    | \$(000)  | \$(000)    | \$(000)   | \$(000)  | \$(000) | \$(000)  | \$(000) | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) |         | \$(000)   |
| •       |          |            |           |          |         |          |         |         |            |            |            |          |          |        |         |         |           |
| 2010    | 25.9969  | 0.0000     | 25.9969   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 38.9000    | 1.3083     | 3.3205   | 4.6288   | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2011    | 26.6468  | 0.0000     | 26.6468   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 116.7000   | 4.2564     | 10.1607  | 14.4172  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2012    | 27.3130  | 0.0000     | 27.3130   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 194.5000   | 7.6477     | 17.2733  | 24.9210  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2013    | 27.9958  | 0.0000     | 27.9958   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 272,3000   | 11.0400    | 24.6662  | 35.7063  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2014    | 28.6957  | 0.0000     | 28.6957   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 350.1000   | 14.5109    | 32.3480  | 46.8589  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2015    | 29.4131  | 0.0000     | 29.4131   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 427.9000   | 18.5595    | 40.3272  | 58.8867  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2016    | 30.1484  | 0.0000     | 30.1484   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 505.7000   | 22.6642    | 48.6125  | 71.2768  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2017    | 30.9021  | 0.0000     | 30.9021   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 583.5000   | 27.2613    | 57.2132  | 84.4745  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2018    | 31.6747  | 0.0000     | 31.6747   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 661.3000   | 32.1351    | 66.1385  | 98.2736  | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2019    | 32.4665  | 0.0000     | 32,4665   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 739.1000   | 37.9680    | 75.3979  | 113.3659 | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| 2019    | 32.4003  | 0.0000     | 32,4003   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 757.1000   | 57.7000    | 13.3717  | 115.5057 | 0.0000 | 0.0000  | 5.5000  | 010000    |
| NOMINAL | 201 2520 | 0.0000     | 201.2520  | 0.0000   | 0.0000  |          | 0.0000  | 0.0000  | 0.0000     | 3,890,0000 | 177.3514   | 375.4580 | 552.8094 | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| NOMINAL | 291.2329 | 0.0000     | 291.2529  | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     | 3,090.0000 | 177.3314   | 373,4360 | 332.6094 | 0.0000 | 0.0000  | 0.0000  | 0.0000    |
| MAT     | 207 2043 | 0.0000     | 207.5042  | 0.0000   |         | 0.0000   | 0.0000  | 0.0000  | 0.0000     |            | 110 4112   | 225 0000 | 246 2202 |        | 0.0000  | 0.0000  | 0.0000    |
| NPV     | 207.8043 | 0.0000     | 207.8043  | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000  | 0.0000     |            | 110.4113   | 235.8090 | 346.2203 |        | 0.0000  | 0.0000  | 0.0000    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Multi Family Survey On Line

| (1)     | (2)      | (3)        | (4)       | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)                                    | (12)       | (13)     | (14)     | (15)   | (16)    | (17)    | (18)    |
|---------|----------|------------|-----------|----------|---------|---------|---------|---------|------------|---|------------|----------|----------|--------|---------|---------|---------|
|         | < UTII   | LITY PROGR | RAM COSTS | & REBATE | S       | > -     | <       | PARTIO  | CIPATING ( | CUSTOMER (                              | COSTS & BE | ENEFITS  |          |        |         |         | >       |
|         |          |            |           |          |         |         |         |         |            |   |            |          |          |        |         | 5.0     | beerom  |
|         |          |            | TOTAL     |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.                                 | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL     | UTIL       | UTIL      | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN                                      | REV.       | REV.     | REV.     | IN     | REV.    | REV. I  | REVENUE |
|         | NONREC.  | RECUR      | PGM       | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.                                   | - FUEL     | NONFUEL  | REDUCT.  | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS    | COSTS      | COSTS     | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH                                     | PORTION    | PORTION  | IN BILL  | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)  | \$(000)    | \$(000)   | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)                                   | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) |         | \$(000) |
|         |          |            |           |          |         |         |         |         |            |   |            |          |          |        |         |         |         |
| 2010    | 26.9596  | 0.0000     | 26.9596   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 28.3000                                 | 0.9518     | 2.4157   | 3.3675   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 27.6336  | 0.0000     | 27.6336   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 84.9000                                 | 3.0966     | 7.3920   | 10.4886  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 28.3244  | 0.0000     | 28.3244   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 141.5000                                | 5.5637     | 12,5664  | 18.1302  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 29.0325  | 0.0000     | 29.0325   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 198.1000                                | 8.0317     | 17.9448  | 25.9765  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 29.7583  | 0.0000     | 29.7583   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 254.7000                                | 10.5568    | 23,5334  | 34.0901  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 30.5023  | 0.0000     | 30.5023   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 311,3000                                | 13.5022    | 29.3383  | 42.8404  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 31.2648  | 0.0000     | 31.2648   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 367.9000                                | 16.4884    | 35,3659  | 51.8543  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 32.0465  | 0.0000     | 32.0465   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 424.5000                                | 19.8328    | 41,6230  | 61.4557  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 32.8476  | 0.0000     | 32.8476   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 481,1000                                | 23.3785    | 48.1162  | 71.4947  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 33.6688  | 0.0000     | 33.6688   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 537.7000                                | 27.6220    | 54.8524  | 82.4744  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |            |           |          |         |         |         |         |            |   |            |          |          |        |         |         |         |
| NOMINAL | 302.0384 | 0.0000     | 302.0384  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 2,830.0000                              | 129.0243   | 273.1481 | 402.1724 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |          |            |           |          | ******  | ******  |         |         | *****      | _,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |            |          |          |        |         |         |         |
| NPV     | 215.4996 | 0.0000     | 215,4996  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     |   | 80.3249    | 171.5526 | 251.8775 |        | 0.0000  | 0.0000  | 0.0000  |
|         |          |            |           |          |         |         |         |         |            |   |            |          |          |        |         |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Lighting Program (CFL)

| (1)     | (2)     | (3)        | (4)      | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)       | (12)       | (13)     | (14)       | (15)   | (16)     | (17)    | (18)    |
|---------|---------|------------|----------|----------|---------|---------|---------|---------|------------|------------|------------|----------|------------|--------|----------|---------|---------|
|         | < UTII  | JITY PROGR | AM COSTS | & REBATE | S       | ·····>  | <       | PARTIO  | CIPATING ( | CUSTOMER ( | COSTS & BE | ENEFITS  |            |        |          |         | >       |
|         |         |            |          |          |         |         |         |         |            |            |            |          |            |        |          |         |         |
|         |         |            | TOTAL    |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.    | INC.   | INC.     | INC.    |         |
|         | UTIL    | UTIL       | UTIL     | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.       | IN     | REV.     | REV.    | REVENUE |
|         | NONREC. | RECUR      | PGM      | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.      | - FUEL     | NONFUEL  | REDUCT.    | CUST.  | - FUEL I | NONFUEL | INC.    |
|         | COSTS   | COSTS      | COSTS    | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL    | KWH    | PORTION  | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)    | (000)  | \$(000)  |         | \$(000) |
|         |         |            |          |          |         |         | •       |         | <b></b>    |            | •          |          |            |        |          |         |         |
| 2010    | 2.8760  | 0.0000     | 2.8760   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 83.9792    | 2.8243     | 7.1685   | 9.9928     | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2011    | 2.9479  | 0.0000     | 2.9479   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 251.9376   | 9.1889     | 21.9355  | 31.1244    | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2012    | 3.0216  | 0.0000     | 3.0216   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 419.8960   | 16.5102    | 37.2904  | 53.8006    | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2013    | 3.0971  | 0.0000     | 3.0971   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 587.8544   | 23.8338    | 53.2506  | 77.0844    | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2014    | 3,1746  | 0.0000     | 3,1746   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 755.8128   | 31.3268    | 69.8344  | 101.1612   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2015    | 3.2539  | 0.0000     | 3.2539   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 923.7712   | 40.0672    | 87.0602  | 127,1274   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2016    | 3,3353  | 0.0000     | 3.3353   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1.091.7296 | 48.9286    | 104.9471 | 153.8757   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 3.4187  | 0.0000     | 3.4187   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1.259.6880 | 58.8530    | 123.5147 | 182.3676   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2018    | 3.5041  | 0.0000     | 3.5041   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,427.6464 | 69.3748    | 142,7830 | 212.1578   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2019    |         | 0.0000     | 3.5917   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,595.6048 | 81,9672    | 162.7726 | 244.7398   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 3.3717  | 0.0000     | J.J713   | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 1,373.0046 | 01.7072    | 102.7720 | 244.1370   | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| NOMINAL | 32.2209 | 0.0000     | 32.2209  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 9 207 0200 | 202 0740   | 910 5560 | 1 102 4210 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| HOMINAL | 32.2209 | 0.0000     | 34.2409  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     | 8,397.9200 | 382.8748   | 810.3369 | 1,193.4318 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| NIDY/   | 22 0001 | 0.0000     | 22 0001  | 0.0000   | 0.0000  | 0.0000  |         | 0.0000  |            |            | 222 2412   | ***      |            |        |          | 0.0000  | 0.0000  |
| NPV     | 22.9891 | 0.0000     | 22.9891  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000     |            | 238.3612   | 509.0759 | 747.4370   |        | 0.0000   | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Insulation

| (1)     | (2)      | (3)       | (4)      | (5)      | (6)     | (7)             | (8)        | (9)     |            | (11)       | (12)       | (13)     | (14)     | (15)   | (16)            | (17)    | (18)     |
|---------|----------|-----------|----------|----------|---------|-----------------|------------|---------|------------|------------|------------|----------|----------|--------|-----------------|---------|----------|
|         | < UTIL   | ITY PROGR | AM COSTS | & REBATE | S       | >               | <          | PART    | CIPATING ( | CUSTOMER ( | COSTS & BI | ENEFITS  |          |        |                 |         |          |
|         |          |           | TOTAL    |          |         | TOTAL           | PARTIC.    | PARTIC. | TOTAL      | REDUCT.    | RED.       | RED.     | EFFECT.  | INC.   | INC.            | INC.    | EFFECT.  |
|         | UTIL     | UTIL      | UTIL     | UTIL     | UTIL    | REBATE/         | CUST       | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.     | IN     | REV.            | REV.    | REVENUE  |
|         | NONREC.  | RECUR     | PGM      | NONREC.  | RECUR.  | INCENT.         | EQUIP      | O & M   | CUST       | CUST.      | - FUEL     | NONFUEL  | REDUCT.  | CUST.  | - FUEL I        | NONFUEL | INC.     |
|         | COSTS    | COSTS     | COSTS    | REBATES  | REBATES | COSTS           | COSTS      | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL  | KWH    | PORTION         | PORTION | IN BILL  |
| YEAR    | \$(000)  | \$(000)   | \$(000)  | \$(000)  | \$(000) | <b>\$</b> (000) | \$(000)    | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | <b>\$</b> (000) |         | _\$(000) |
|         |          |           |          |          |         |                 |            |         |            |            |            |          |          |        |                 |         |          |
| 2010    | 34.7160  | 0.0000    | 34.7160  | 22.5000  | 0.0000  | 22.5000         | 129.7013   | 0.0000  | 129.7013   | 51.6375    | 1.7366     | 4.4078   | 6.1444   | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2011    | 35.5839  | 0.0000    | 35.5839  | 22.5000  | 0.0000  | 22.5000         | 132.9438   | 0.0000  | 132.9438   | 154,9125   | 5.6501     | 13.4878  | 19.1379  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2012    | 36.4735  | 0.0000    | 36.4735  | 22.5000  | 0.0000  | 22.5000         | 136.2674   | 0.0000  | 136.2674   | 258.1875   | 10.1519    | 22.9293  | 33.0811  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2013    | 37.3853  | 0.0000    | 37.3853  | 22.5000  | 0.0000  | 22.5000         | 139.6741   | 0.0000  | 139.6741   | 361.4625   | 14.6550    | 32.7430  | 47.3980  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2014    | 38.3199  | 0.0000    | 38.3199  | 22.5000  | 0.0000  | 22.5000         | 143.1659   | 0.0000  | 143.1659   | 464.7375   | 19.2623    | 42.9401  | 62.2024  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2015    | 39.2779  | 0.0000    | 39.2779  | 22.5000  | 0.0000  | 22.5000         | 146.7451   | 0.0000  | 146.7451   | 568.0125   | 24.6367    | 53.5320  | 78.1687  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2016    | 40.2599  | 0.0000    | 40.2599  | 22.5000  | 0.0000  | 22.5000         | 150.4137   | 0.0000  | 150.4137   | 671,2875   | 30.0854    | 64.5303  | 94.6158  | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2017    | 41.2664  | 0.0000    | 41.2664  | 22,5000  | 0.0000  | 22.5000         | 154.1740   | 0.0000  | 154.1740   | 774.5625   | 36.1878    | 75.9473  | 112.1350 | 0.0000 | 0000.0          | 0.0000  | 0.0000   |
| 2018    | 42.2981  | 0.0000    | 42,2981  | 22.5000  | 0.0000  | 22.5000         | 158.0284   | 0.0000  | 158.0284   | 877.8375   | 42.6575    | 87.7950  | 130.4525 | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
| 2019    | 43.3555  | 0.0000    | 43.3555  | 22.5000  | 0.0000  | 22.5000         | 161.9791   | 0.0000  | 161.9791   | 981.1125   | 50.4004    | 100.0863 | 150.4867 | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
|         |          |           |          |          |         |                 |            |         |            |            |            |          |          |        |                 |         |          |
| NOMINAL | 388.9364 | 0.0000    | 388.9364 | 225.0000 | 0.0000  | 225.0000        | 1,453.0926 | 0.0000  | 1,453.0926 | 5,163.7500 | 235.4238   | 498.3988 | 733.8226 | 0.0000 | 0.0000          | 0.0000  | 0.0000   |
|         |          |           |          |          |         |                 |            |         |            |            |            |          |          |        |                 |         |          |
| NPV     | 277.5000 | 0.0000    | 277.5000 | 163.0550 | 0.0000  | 163.0550        | 1,036.7588 | 0.0000  | 1,036.7588 |            | 146.5646   | 313.0228 | 459.5874 |        | 0.0000          | 0.0000  | 0.0000   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)     | (2)      | (3)       | (4)       | (5)      | (6)     | (7)      | (8)               | (9)     | (10)       | (11)       | (12)       | (13)     | (14)     | (15)   | (16)    | (17)     | (18)    |
|---------|----------|-----------|-----------|----------|---------|----------|-------------------|---------|------------|------------|------------|----------|----------|--------|---------|----------|---------|
|         | < UTIL   | ITY PROGE | RAM COSTS | & REBATE | S       | ·> ·     | <                 | PARTIO  | CIPATING ( | CUSTOMER ( | COSTS & BE | ENEFITS  |          |        |         |          | >       |
|         |          |           | TOTAL     |          |         | TOTAL    | PARTIC.           | PARTIC. | TOTAL      | REDUCT     | RED.       | RED.     | EFFECT.  | INC.   | INC.    | INC.     | EFFECT. |
|         | UTIL     | UTIL      | UTIL      | UTIL     | UTIL    | REBATE/  | CUST              | CUST    | PARTIC.    | IN         | REV.       | REV.     | REV.     | INC    | REV.    |          | REVENUE |
|         | NONREC.  | RECUR     |           | NONREC.  | RECUR.  | INCENT.  | EQUIP             | 0 & M   | CUST       | CUST.      |            | NONFUEL  | REDUCT.  | CUST.  |         | NONFUEL  | INC.    |
|         | COSTS    | COSTS     |           | REBATES  |         | COSTS    | COSTS             | COSTS   | COSTS      | KWH        | PORTION    | PORTION  | IN BILL  | KWH    | PORTION |          | IN BILL |
| YEAR    | \$(000)  | \$(000)   | \$(000)   | \$(000)  | \$(000) | \$(000)  | \$(000)           | \$(000) | \$(000)    | (000)      | \$(000)    | \$(000)  | \$(000)  | (000)  | \$(000) | 10111011 | \$(000) |
|         | 4(000)   | 3(000)    | <u> </u>  | \$(000)  | \$(000) | 3(000)   | <del>*(000)</del> | 4(000)  | \$(0,00)   | (000)      |            |          | \$(000)  | (000)  | 4(000)  |          | \$(400) |
| 2010    | 25.6556  | 0.0000    | 25.6556   | 26.2500  | 0.0000  | 26.2500  | 164.1959          | 0.0000  | 164.1959   | 40.9530    | 1.3773     | 3.4957   | 4.8731   | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2011    | 26.2970  | 0.0000    | 26.2970   | 26.2500  | 0.0000  | 26.2500  | 168.3007          | 0.0000  | 168.3007   | 122.8589   | 4.4810     | 10.6970  | 15.1780  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2012    | 26.9545  | 0.0000    | 26.9545   | 26.2500  | 0.0000  | 26.2500  | 172.5083          | 0.0000  | 172.5083   | 204.7649   | 8.0513     | 18.1849  | 26.2362  | 0.0000 | 0.0000  | 0.0000   | 00000   |
| 2013    | 27.6283  | 0.0000    | 27.6283   | 26.2500  | 0.0000  | 26.2500  | 176.8210          | 0.0000  | 176.8210   | 286.6708   | 11.6227    | 25.9680  | 37.5907  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2014    | 28.3190  | 0.0000    | 28.3190   | 26.2500  | 0.0000  | 26.2500  | 181.2415          | 0.0000  | 181.2415   | 368.5767   | 15.2767    | 34.0552  | 49.3319  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2015    | 29.0270  | 0.0000    | 29.0270   | 26.2500  | 0.0000  | 26.2500  | 185.7725          | 0.0000  | 185.7725   | 450.4827   | 19.5390    | 42.4554  | 61.9945  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2016    | 29,7527  | 0.0000    | 29.7527   | 26.2500  | 0.0000  | 26.2500  | 190.4168          | 0.0000  | 190.4168   | 532.3886   | 23.8603    | 51.1781  | 75.0384  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2017    | 30.4965  | 0.0000    | 30.4965   | 26.2500  | 0.0000  | 26.2500  | 195.1773          | 0.0000  | 195.1773   | 614.2946   | 28.7000    | 60.2327  | 88.9327  | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2018    | 31.2589  | 0.0000    | 31.2589   | 26.2500  | 0.0000  | 26.2500  | 200.0567          | 0.0000  | 200.0567   | 696.2005   | 33.8311    | 69.6290  | 103.4601 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
| 2019    | 32.0404  | 0.0000    | 32.0404   | 26.2500  | 0.0000  | 26.2500  | 205.0581          | 0.0000  | 205.0581   | 778.1065   | 39.9718    | 79.3771  | 119.3489 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
|         |          |           |           |          |         | _        |                   |         |            |            |            |          |          |        |         |          |         |
| NOMINAL | 287.4300 | 0.0000    | 287.4300  | 262.5000 | 0.0000  | 262.5000 | 1,839.5488        | 0.0000  | 1,839.5488 | 4,095.2971 | 186.7113   | 395.2730 | 581.9843 | 0.0000 | 0.0000  | 0.0000   | 0.0000  |
|         |          |           |           |          |         |          |                   |         |            |            |            |          |          |        |         |          |         |
| NPV     | 205.0768 | 0.0000    | 205.0768  | 190.2308 | 0.0000  | 190.2308 | 1,312.4892        | 0.0000  | 1,312.4892 |            | 116.2383   | 248.2540 | 364.4923 |        | 0.0000  | 0.0000   | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Gold Ring

| (1)     | (2)     | (3)       | (4)      | (5)      | (6)             | (7)     | (8)     | (9)     | (10)       | (11)      | (12)      | (13)         | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|-----------|----------|----------|-----------------|---------|---------|---------|------------|-----------|-----------|--------------|---------|--------|---------|---------|---------|
|         | < UTII. | ITY PROGR | AM COSTS | & REBATE | S               | >       | <       | PARTIC  | CIPATING C | USTOMER C | OSTS & BE | NEFITS       |         |        |         |         | >       |
|         |         |           | TOTAL    |          |                 | TOTAL   | PARTIC. | DADTIC  | TOTAL      | REDUCT.   | RED.      | DED          | tereot. | INC.   | INC.    | TNIC    | EFFECT. |
|         | UTIL    | UTIL      | TOTAL    | UTIL     | TITH            |         | CUST    | PARTIC. | PARTIC.    |           |           | RED.<br>REV. | EFFECT. |        | REV.    |         |         |
|         |         |           | UTIL     |          | UTIL            | REBATE/ |         | CUST    |            | IN        | REV.      |              | REV.    | IN     |         |         | REVENUE |
|         | NONREC. | RECUR     | PGM      |          | RECUR.          | INCENT. | EQUIP   | 0 & M   | CUST       | CUST.     |           | NONFUEL      | REDUCT. | CUST.  |         | NONFUEL | INC.    |
|         | COSTS   | COSTS     | COSTS    |          | REBATES         | COSTS   | COSTS   | COSTS   | COSTS      |           | PORTION   | PORTION      | IN BILL |        | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)   | \$(000)  | \$(000)  | <b>\$</b> (000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)   | \$(000)      | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |           |          |          |                 |         |         |         |            |           |           |              |         |        |         |         |         |
| 2010    | 2.4686  | 0.0000    | 2.4686   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0000.0  | 0.0000     | 3.9405    | 0.1325    | 0.3364       | 0.4689  | 0.0000 | 0.0000  | 0.0000  | 0000.0  |
| 2011    | 2.5303  | 0.0000    | 2.5303   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 11.8215   | 0.4312    | 1.0293       | 1.4604  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 2.5936  | 0.0000    | 2.5936   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 19.7025   | 0.7747    | 1.7498       | 2.5244  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 2.6584  | 0.0000    | 2.6584   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 27.5835   | 1.1183    | 2.4986       | 3.6170  | 0.0000 | 0,0000  | 0.0000  | 0.0000  |
| 2014    | 2.7249  | 0.0000    | 2.7249   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 35.4645   | 1.4699    | 3.2768       | 4.7467  | 0.0000 | 0,0000  | 0.0000  | 0.0000  |
| 2015    | 2.7930  | 0.0000    | 2.7930   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 43.3455   | 1.8800    | 4.0851       | 5.9651  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 2.8628  | 0.0000    | 2.8628   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 51.2265   | 2.2958    | 4.9244       | 7.2202  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 2.9344  | 0.0000    | 2.9344   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 59.1075   | 2.7615    | 5.7956       | 8.5571  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 3.0078  | 0.0000    | 3.0078   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 66,9885   | 3.2552    | 6.6997       | 9.9549  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 3.0830  | 0.0000    | 3.0830   | 4.2000   | 0.0000          | 4.2000  | 0.0000  | 0.0000  | 0.0000     | 74,8695   | 3.8461    | 7.6377       | 11.4838 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 3.0020  | 0.0000    | 5.0050   | 1.2000   | 0.0000          | 1.2000  | 0.0000  | 0.0000  | 0.000      | 74,0075   | 5.0401    | 7.0577       | 11.4050 | 0.0000 | 0.000   | 0.0000  | 0.000   |
| NOMINAL | 27.6568 | 0.0000    | 27.6568  | 42.0000  | 0.0000          | 42.0000 | 0.0000  | 0.0000  | 0.0000     | 394,0500  | 17.9654   | 38.0332      | 55.9986 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| HOMINAL | 27.0500 | 0.0000    | 27.0300  | 42.0000  | 0.0000          | 72.0000 | 0.0000  | 0.0000  | 0.0000     | 374,0300  | 17.7034   | 30.0332      | 33.3980 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 10 7227 | 0.0000    | 10 7227  | 20.4260  | 0.000           | 20.4260 | 0.0000  | 0.0000  | 0.0000     |           | 11 1046   | 22 0070      | 25 0715 |        | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 19.7327 | 0.0000    | 19.7327  | 30.4369  | 0.0000          | 30.4369 | 0.0000  | 0.0000  | 0.0000     |           | 11.1845   | 23.8870      | 35.0715 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM; Residential Home Energy Fix Up

| (1)     | (2)     | (3)        | (4)      | (5)      | (6)     | (7)      | (8)     | (9)     | (10)       | (11)      | (12)       | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|------------|----------|----------|---------|----------|---------|---------|------------|-----------|------------|---------|---------|--------|---------|---------|---------|
|         | < UTIL  | ITY PROGR. | AM COSTS | & REBATE | S       | ·> ·     | <       | PARTIO  | CIPATING C | USTOMER C | COSTS & BI | ENEFITS |         |        |         |         | ·>      |
|         |         |            | TOTAL    |          |         | TOTAL    | BARTIC  | DADTIC  | TOTAL      | DEDLICE   | bed.       | nco     | Precar  | DIC    | IMC.    | DIC     | FFFFGT  |
|         | T PERT  | LITTI      | TOTAL    | 1.001    | T PERT  | TOTAL    | PARTIC. | PARTIC. | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.    | INC.    |         |
|         | UTIL    | UTIL       | UTIL     | UTIL     | UTIL    | REBATE/  | CUST    | CUST    | PARTIC.    | IN        | REV.       | REV.    | REV.    | IN     | REV.    |         | REVENUE |
|         | NONREC. | RECUR      |          | NONREC.  | RECUR.  | INCENT.  | EQUIP   | 0 & M   | CUST       | CUST.     |            | NONFUEL | REDUCT. | CUST.  |         | NONFUEL | INC.    |
|         | COSTS   | COSTS      |          | REBATES  |         | COSTS    | COSTS   | COSTS   | COSTS      |           | PORTION    |         | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |            |          |          |         |          |         |         |            |           |            |         |         |        |         |         |         |
| 2010    | 4.0721  | 0.0000     | 4.0721   | 28.8080  | 0.0000  | 28.8080  | 5.0835  | 0.0000  | 5.0835     | 6.5000    | 0.2186     | 0.5548  | 0.7734  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 4.1739  | 0.0000     | 4.1739   | 29.5282  | 0.0000  | 29.5282  | 5.2106  | 0.0000  | 5.2106     | 19.5000   | 0.7112     | 1.6978  | 2.4090  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 4.2783  | 0.0000     | 4.2783   | 30.2664  | 0.0000  | 30.2664  | 5.3409  | 0.0000  | 5.3409     | 32.5000   | 1.2779     | 2.8863  | 4.1642  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 4.3852  | 0.0000     | 4.3852   | 31.0231  | 0.0000  | 31.0231  | 5.4744  | 0.0000  | 5.4744     | 45.5000   | 1.8447     | 4.1216  | 5.9663  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 4.4949  | 0.0000     | 4,4949   | 31.7986  | 0.0000  | 31.7986  | 5.6113  | 0.0000  | 5.6113     | 58.5000   | 2.4247     | 5.4052  | 7.8299  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 4.6072  | 0.0000     | 4.6072   | 32.5936  | 0.0000  | 32,5936  | 5.7515  | 0.0000  | 5.7515     | 71.5000   | 3.1012     | 6.7385  | 9.8397  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 4,7224  | 0.0000     | 4.7224   | 33.4084  | 0.0000  | 33.4084  | 5.8953  | 0.0000  | 5.8953     | 84.5000   | 3.7871     | 8,1229  | 11.9100 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 4.8405  | 0.0000     | 4,8405   | 34.2437  | 0.0000  | 34,2437  | 6.0427  | 0.0000  | 6.0427     | 97.5000   | 4.5552     | 9.5601  | 14.1153 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    |         | 0.0000     | 4.9615   | 35,0998  | 0.0000  | 35.0998  | 6.1938  | 0.0000  | 6.1938     | 110.5000  | 5.3696     | 11.0514 | 16.4210 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    |         | 0.0000     | 5.0855   | 35.9772  | 0.0000  | 35.9772  | 6.3486  | 0.0000  | 6.3486     | 123.5000  | 6.3443     | 12.5986 | 18.9429 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 5.0055  | 0.0000     | 5.0055   | 33.7172  | 0.0000  | 55.77,2  | 0.5 100 | 0.0000  | 0.5100     | 125.5000  | 0.0110     | 12.5700 | 10.5125 | 0.0000 | 0.0000  | 0.0000  | 5.000   |
| NOMINAL | 45.6215 | 0.0000     | 45.6215  | 322,7470 | 0.0000  | 322,7470 | 56.9526 | 0.0000  | 56.9526    | 650.0000  | 29.6346    | 62,7372 | 92.3718 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| HOMINAL | 73.0213 | 0.0000     | 40.0213  | 322.3410 | 0.0000  | 322.1710 | 30.9320 | 0.0000  | 30.9320    | 050.0000  | 27.0340    | 02,7372 | 12.3710 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NIDS/   | 22 6502 | 0.0000     | 22 5502  | 220 2740 | 0.0000  | 220 2740 | 40 6240 | 0.0000  | 40 6349    |           | 19 4403    | 20.4025 | 57 0517 |        | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 32.5502 | 0.0000     | 32.5502  | 230.2749 | 0.0000  | 230.2749 | 40.6348 | 0.0000  | 40.6348    |           | 18.4492    | 39.4025 | 57.8517 |        | 0.0000  | 0.0000  | 0.000   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Duct Repair

| (1)     | (2)        | (3)       | (4)       | (5)        | (6)     | (7)       | (8)      | (9)     | (10)       | (11)       | (12)         | (13)         | (14)     | (15)   | (16)         | (17)    | (18)    |
|---------|------------|-----------|-----------|------------|---------|-----------|----------|---------|------------|------------|--------------|--------------|----------|--------|--------------|---------|---------|
|         | < UTIL     | JTY PROGE | RAM COSTS | & REBATE   | S       | >         | <        | PARTI   | CIPATING ( | CUSTOMER C | COSTS & BE   | ENEFITS      |          |        |              |         | >       |
|         |            |           | TOTAL     |            |         | TOTAL     | PARTIC.  | PARTIC. | TOTAL      | REDUCT.    | DED          | DED          | EFFECT   | D.C.   | D.C.         | D.C.    | EFFECT  |
|         | UTIL       | UTIL      | UTIL      | UTIL       | UTIL    |           | CUST     | CUST    | PARTIC.    | IN         | RED.<br>REV. | RED.<br>REV. | EFFECT.  | INC.   | INC.<br>REV. | INC.    |         |
|         | NONREC.    | RECUR     |           | NONREC.    | RECUR.  | INCENT.   |          |         |            |            |              |              | REV.     | IN     |              |         | REVENUE |
|         | COSTS      |           |           |            |         |           | EQUIP    | O & M   | CUST       | CUST.      |              | NONFUEL      | REDUCT.  | CUST.  |              | NONFUEL | INC.    |
| MEAD    |            | COSTS     |           | REBATES    |         | COSTS     | COSTS    | COSTS   | COSTS      | KWH        | PORTION      |              | IN BILL  |        |              | PORTION | IN BILL |
| YEAR    | \$(000)    | \$(000)   | \$(000)   | \$(000)    | \$(000) | \$(000)   | \$(000)  | \$(000) | \$(000)    | (000)      | \$(000)      | \$(000)      | \$(000)  | (000)  | \$(000)      |         | \$(000) |
|         |            |           |           |            |         |           |          |         |            |            |              |              |          |        |              |         |         |
| 2010    | 14.5128    | 0.0000    | 14.5128   | 20.2500    | 0.0000  | 20.2500   | 60.7500  | 0.0000  | 60.7500    | 20.6550    | 0.6947       | 1.7631       | 2.4578   | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2011    | 14.8756    | 0.0000    | 14.8756   | 20.2500    | 0.0000  | 20.2500   | 62.2688  | 0.0000  | 62.2688    | 61.9650    | 2.2601       | 5.3951       | 7.6552   | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2012    | 15.2475    | 0.0000    | 15.2475   | 20.2500    | 0.0000  | 20.2500   | 63.8255  | 0.0000  | 63.8255    | 103.2750   | 4.0607       | 9.1717       | 13.2324  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2013    | 15.6287    | 0.0000    | 15.6287   | 20.2500    | 0.0000  | 20.2500   | 65,4211  | 0.0000  | 65.4211    | 144.5850   | 5.8620       | 13.0972      | 18.9592  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2014    | 16.0194    | 0.0000    | 16.0194   | 20.2500    | 0.0000  | 20.2500   | 67.0566  | 0.0000  | 67.0566    | 185.8950   | 7.7049       | 17.1760      | 24.8810  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2015    | 16.4199    | 0.0000    | 16.4199   | 20.2500    | 0.0000  | 20.2500   | 68.7330  | 0.0000  | 68.7330    | 227.2050   | 9.8547       | 21.4128      | 31.2675  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2016    | 16.8304    | 0.0000    | 16.8304   | 20.2500    | 0.0000  | 20.2500   | 70.4514  | 0.0000  | 70.4514    | 268.5150   | 12.0342      | 25.8121      | 37.8463  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2017    | 17.2511    | 0.0000    | 17.2511   | 20.2500    | 0.0000  | 20,2500   | 72.2127  | 0.0000  | 72.2127    | 309.8250   | 14,4751      | 30.3789      | 44.8540  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2018    | 17.6824    | 0.0000    | 17.6824   | 20.2500    | 0.0000  | 20.2500   | 74.0180  | 0.0000  | 74.0180    | 351.1350   | 17.0630      | 35.1180      | 52.1810  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| 2019    | 18.1245    | 0.0000    | 18.1245   | 20.2500    | 0.0000  | 20.2500   | 75.8684  | 0.0000  | 75.8684    | 392,4450   | 20.1601      | 40.0345      | 60.1947  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
|         |            |           |           |            |         |           |          | 0,000   | , 0.000    | 0,4,1,00   | 20.1001      | 10.05 15     | 00.1717  | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| NOMINAL | 162,5921   | 0.0000    | 162.5921  | 202.5000   | 0.0000  | 202.5000  | 680.6054 | 0.0000  | 680.6054   | 2,065.5000 | 94.1695      | 199.3595     | 293.5290 | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
|         | . 52.5 /21 | 2,3000    | 102.5721  | 202.5000   | 0.0000  | 202.5000  | 000.0054 | 0.0000  | 000.0034   | 2,000.0000 | 74.1073      | 177.3373     | 293.3270 | 0.0000 | 0.0000       | 0.0000  | 0.0000  |
| NPV     | 116.0069   | 0.0000    | 116.0069  | 146.7495   | 0.0000  | 146.7495  | 485,6013 | 0.0000  | 485.6013   |            | 58.6258      | 125.2091     | 183.8350 |        | 0.0000       | 0.0000  | 0.0000  |
| ,       |            | 0.0000    |           | 1 10.1 475 | 5.5000  | 1 10.7773 | TOD.0012 | 0.0000  | 705.0015   |            | 50.0256      | 12.2071      | 100,0000 |        | 0.0000       | 0.0000  | 0.0000  |

<sup>•</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)     |         |              | (4)      | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)      | (12)       | (13)       | (14)                                    | (15)   | (16)    |         | (18)    |
|---------|---------|--------------|----------|----------|---------|---------|---------|---------|------------|-----------|------------|------------|---|--------|---------|---------|---------|
|         | < UTI   | LITY PROGR   | AM COSTS | & REBATE | S       |         | <       | PARTIO  | CIPATING C | USTOMER ( | COSTS & BE | NEFITS     |   |        |         |         | >       |
|         |         |              | F00F14   |          |         |         |         |         |            |           |            |            |   |        |         |         |         |
|         |         |              | TOTAL    |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.   |            | RED.       | EFFECT.                                 | INC.   | INC.    |         | EFFECT. |
|         | UTIL    |              | UTIL     | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN        | REV.       | REV.       | REV.                                    | IN     | REV.    | REV.    | REVENUE |
|         | NONREC. |              |          | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.     | - FUEL     | NONFUEL    | REDUCT.                                 | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | <del>-</del> | COSTS    | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH       | PORTION    | PORTION    | IN BILL                                 | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)      | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)    | \$(000)    | \$(000)                                 | (000)  | \$(000) |         | \$(000) |
|         |         |              |          |          |         |         |         |         |            |           |            | - <u>-</u> |   |        |         |         |         |
| 2010    | 2.7981  | 0.0000       | 2.7981   | 1.9500   | 0.0000  | 1.9500  | 8.4622  | 0.0000  | 8.4622     | 4.4665    | 0.1502     | 0.3813     | 0.5315                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 2.8681  | 0.0000       | 2.8681   | 1.9500   | 0.0000  | 1.9500  | 8.6738  | 0.0000  | 8.6738     | 13.3994   | 0.4887     | 1.1667     | 1.6554                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 2.9398  | 0.0000       | 2.9398   | 1.9500   | 0.0000  | 1.9500  | 8.8906  | 0.0000  | 8.8906     | 22.3324   | 0.8781     | 1.9833     | 2.8614                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 3.0133  | 0.0000       | 3.0133   | 1.9500   | 0.0000  | 1.9500  | 9.1129  | 0.0000  | 9.1129     | 31.2654   | 1.2676     | 2.8322     | 4.0998                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 3.0886  | 0.0000       | 3.0886   | 1.9500   | 0.0000  | 1.9500  | 9.3407  | 0.0000  | 9.3407     | 40.1983   | 1.6661     | 3.7142     | 5.3803                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 3.1658  | 0.0000       | 3.1658   | 1.9500   | 0.0000  | 1.9500  | 9.5742  | 0.0000  | 9.5742     | 49.1313   | 2.1310     | 4.6303     | 6.7613                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 3.2450  | 0.0000       | 3.2450   | 1.9500   | 0.0000  | 1.9500  | 9.8136  | 0.0000  | 9,8136     | 58.0642   | 2.6023     | 5.5817     | 8.1840                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 3.3261  | 0.0000       | 3.3261   | 1.9500   | 0.0000  | 1.9500  | 10.0589 | 0.0000  | 10.0589    | 66.9972   | 3.1301     | 6.5692     | 9,6993                                  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 3.4092  | 0.0000       | 3.4092   | 1.9500   | 0.0000  | 1.9500  | 10.3104 | 0.0000  | 10.3104    | 75.9302   | 3.6897     | 7.5940     | 11.2837                                 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 3.4945  | 0.0000       | 3.4945   | 1.9500   | 0.0000  | 1.9500  | 10.5682 | 0.0000  | 10.5682    | 84.8631   | 4.3595     | 8.6571     | 13.0166                                 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |              |          |          |         |         |         |         |            | 5,7,5,5   |            | 0.007.     | *************************************** | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NOMINAL | 31.3484 | 0.0000       | 31.3484  | 19.5000  | 0.0000  | 19.5000 | 94.8055 | 0.0000  | 94.8055    | 446.6480  | 20.3634    | 43.1099    | 63.4733                                 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |              |          |          | 2.3000  |         |         | 2.3000  |            |           | 20.5051    | .5.1077    | 00.7100                                 | 0.0000 | 5.0000  | 0.5000  | 0.0000  |
| NPV     | 22.3666 | 0.0000       | 22.3666  | 14.1314  | 0.0000  | 14.1314 | 67.6422 | 0.0000  | 67.6422    |           | 12.6774    | 27.0755    | 39.7528                                 |        | 0.0000  | 0.0000  | 0.0000  |
| • • •   |         | 2.000        | 5000     |          | 5.0000  |         | 07.0722 | 0.0000  | 07.0722    |           | 12.0774    | 21.0733    | 39.1320                                 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)     | (2)     | (3)        | (4)      | (5)        | (6)     | (7)     | (8)     | (9)     | (10)       | (11)      | (12)       | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|------------|----------|------------|---------|---------|---------|---------|------------|-----------|------------|---------|---------|--------|---------|---------|---------|
|         | < UTIL  | ITY PROGR. | AM COSTS | S & REBATE | ES      | > ·     | <       | PARTIO  | CIPATING C | USTOMER ( | COSTS & BI | ENEFITS |         |        |         |         |         |
|         |         |            |          |            |         |         |         |         |            |           |            |         |         |        |         |         |         |
|         |         |            | TOTAL    |            |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL       | UTIL     | UTIL       | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN        | REV.       | REV.    | REV.    | IN     | REV.    | REV.    | REVENUE |
|         | NONREC. | RECUR      | PGM      | NONREC.    | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.     | - FUEL     | NONFUEL | REDUCT. | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | COSTS      | COSTS    | REBATES    | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH       | PORTION    | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |            |          |            |         |         |         |         |            |           |            |         |         |        |         |         |         |
| 2010    |         | 0.0000     | 0.2663   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 0.4250    | 0.0143     | 0.0363  | 0.0506  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.2729  | 0.0000     | 0,2729   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 1.2750    | 0.0465     | 0.1110  | 0.1575  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.2797  | 0.0000     | 0.2797   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 2.1250    | 0.0836     | 0.1887  | 0.2723  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.2867  | 0.0000     | 0.2867   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 2.9750    | 0.1206     | 0.2695  | 0.3901  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 0.2939  | 0.0000     | 0.2939   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 3.8250    | 0.1585     | 0.3534  | 0.5120  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 0.3012  | 0.0000     | 0.3012   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 4.6750    | 0.2028     | 0.4406  | 0.6434  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 0.3088  | 0.0000     | 0.3088   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 5.5250    | 0.2476     | 0.5311  | 0.7787  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 0.3165  | 0.0000     | 0.3165   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 6.3750    | 0.2978     | 0.6251  | 0.9229  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 0.3244  | 0.0000     | 0.3244   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 7.2250    | 0.3511     | 0.7226  | 1.0737  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 0.3325  | 0.0000     | 0.3325   | 1.7000     | 0.0000  | 1.7000  | 3.4000  | 0.0000  | 3.4000     | 8.0750    | 0.4148     | 0.8238  | 1.2386  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |            |          |            |         |         |         |         |            |           |            |         |         |        |         |         |         |
| NOMINAL | 2.9829  | 0.0000     | 2.9829   | 17.0000    | 0.0000  | 17.0000 | 34.0000 | 0.0000  | 34.0000    | 42.5000   | 1.9376     | 4.1020  | 6.0397  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |            |          |            |         |         |         |         |            |           |            |         |         |        |         |         |         |
| NPV     | 2.1283  | 0.0000     | 2.1283   | 12.3197    | 0.0000  | 12.3197 | 24.6394 | 0.0000  | 24.6394    |           | 1.2063     | 2.5763  | 3.7826  |        | 0.0000  | 0.0000  | 0.0000  |
|         |         |            |          |            |         |         |         |         |            |           |            |         |         |        |         |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Heat Pump SEER 18

| (1)     | (2)     | (3)        | (4)      | (5)      | (6)     | (7)     | (8)      | (9)            | (10)       | (11)      | (12)       | (13)    | (14)    | (15)                                    | (16)    | (17)     | (18)    |
|---------|---------|------------|----------|----------|---------|---------|----------|----------------|------------|-----------|------------|---------|---------|---|---------|----------|---------|
|         | < UTIL  | ITY PROGRA | AM COSTS | & REBATE | S       | > ·     | <        | PARTIO         | CIPATING C | USTOMER ( | COSTS & BE | ENEFITS |         | *************************************** |         |          | >       |
|         |         |            | TOTAL    |          |         | TOTAL   | PARTIC.  | PARTIC.        | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.                                    | INC.    | INC.     | EFFECT. |
|         | UTIL    | UTIL       | UTIL     | UTIL     | UTIL    | REBATE/ | CUST     | CUST           | PARTIC.    | IN        | REV.       | RED.    | REV.    | INC.                                    | REV.    |          | REVENUE |
|         | NONREC. | RECUR      |          | NONREC.  | REÇUR.  | INCENT. | EQUIP    | 0 & M          | CUST       | CUST.     |            | NONFUEL | REDUCT. | CUST.                                   |         | NONFUEL  | INC.    |
|         | COSTS   | COSTS      |          | REBATES  |         | COSTS   | COSTS    | COSTS          | COSTS      |           |            |         | IN BILL | KWH                                     | PORTION |          | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)        | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)                                   | \$(000) | 10111011 | \$(000) |
| LILAN   | \$(000) | \$(000)    | \$(000)  | 3(000)   | \$(000) | \$(000) | \$(000)  | <b>J</b> (000) | 3(000)     | (000)     | \$(000)    | \$(000) | Φ(000)  | (555)                                   | \$(000) |          | 3(000)  |
| 2010    | 0.3895  | 0.0000     | 0.3895   | 0.9000   | 0.0000  | 0.9000  | 18.0685  | 0.0000         | 18.0685    | 2.0520    | 0.0690     | 0.1670  | 0.2360  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2011    | 0.3992  | 0.0000     | 0.3992   | 0.9000   | 0.0000  | 0.9000  | 18.5202  | 0.0000         | 18.5202    | 6.1560    | 0.2245     | 0.5124  | 0.7369  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2012    | 0.4092  | 0.0000     | 0.4092   | 0.9000   | 0.0000  | 0.9000  | 18.9832  | 0.0000         | 18,9832    | 10.2600   | 0.4034     | 0.8735  | 1.2769  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2013    | 0.4195  | 0.0000     | 0.4195   | 0.9000   | 0.0000  | 0.9000  | 19.4578  | 0.0000         | 19.4578    | 14.3640   | 0.5824     | 1.2508  | 1.8331  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2014    | 0.4299  | 0.0000     | 0.4299   | 0.9000   | 0.0000  | 0.9000  | 19.9442  | 0.0000         | 19.9442    | 18.4680   | 0.7655     | 1.6448  | 2.4103  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2015    | 0.4407  | 0.0000     | 0.4407   | 0.9000   | 0.0000  | 0.9000  | 20.4428  | 0.0000         | 20.4428    | 22.5720   | 0.9790     | 2.0562  | 3.0352  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2016    | 0.4517  | 0.0000     | 0.4517   | 0.9000   | 0.0000  | 0.9000  | 20.9539  | 0.0000         | 20.9539    | 26.6760   | 1.1956     | 2.4855  | 3.6811  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2017    | 0.4630  | 0.0000     | 0.4630   | 0.9000   | 0.0000  | 0.9000  | 21.4777  | 0.0000         | 21.4777    | 30.7800   | 1.4380     | 2.9334  | 4.3714  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2018    | 0.4746  | 0.0000     | 0.4746   | 0.9000   | 0.0000  | 0.9000  | 22.0147  | 0.0000         | 22.0147    | 34.8840   | 1.6951     | 3.4004  | 5.0956  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
| 2019    | 0.4864  | 0.0000     | 0.4864   | 0.9000   | 0.0000  | 0.9000  | 22.5650  | 0.0000         | 22.5650    | 38.9880   | 2.0028     | 3.8873  | 5.8902  | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
|         |         |            |          |          |         |         |          |                |            |           |            |         |         |   |         |          |         |
| NOMINAL | 4.3638  | 0.0000     | 4.3638   | 9.0000   | 0.0000  | 9.0000  | 202.4279 | 0.0000         | 202.4279   | 205.2000  | 9.3554     | 19.2113 | 28.5667 | 0.0000                                  | 0.0000  | 0.0000   | 0.0000  |
|         |         |            |          |          |         |         |          |                |            |           |            |         |         |   |         |          |         |
| NPV     | 3.1135  | 0.0000     | 3.1135   | 6.5222   | 0.0000  | 6.5222  | 144.4291 | 0.0000         | 144.4291   |           | 5.8243     | 12.0513 | 17.8756 |   | 0.0000  | 0.0000   | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | , ,     | (3)        | (4)      | (5)      | (6)     | (7)     | (8)      | (9)     | (10)       | (11)      | (12)       | (13)    | (14)    | (15)   | (16)     | (17)    | (18)    |
|---------|---------|------------|----------|----------|---------|---------|----------|---------|------------|-----------|------------|---------|---------|--------|----------|---------|---------|
|         | < UTIL  | ITY PROGRA | AM COSTS | & REBATE | S       | ·>      | <        | PARTI   | CIPATING C | USTOMER C | COSTS & BE | ENEFITS |         |        |          |         | >       |
|         |         |            | TOTAL    |          |         | TOTAL   | DADTIC   | DADTIC  | TOTAL.     | DEDILOT   | 200        | n en    |         | B.10   |          | ** ***  |         |
|         | UTIL    | UTIL       |          | TPTIT    | T TODAY | TOTAL   | PARTIC.  | PARTIC. | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.     |         | EFFECT. |
|         |         |            | UTIL     | UTIL     | UTIL    | REBATE/ | CUST     | CUST    | PARTIC.    | IN        | REV.       | REV.    | REV.    | IN     | REV.     |         | REVENUE |
|         | NONREC. | RECUR      |          | NONREC.  | RECUR.  | INCENT. | EQUIP    | O & M   | CUST       | CUST.     | - FUEL     | NONFUEL | REDUCT. | CUST.  | - FUEL 1 | NONFUEL | INC.    |
|         | COSTS   | COSTS      |          | REBATES  | REBATES | COSTS   | COSTS    | COSTS   | COSTS      | KWH       | PORTION    | PORTION | IN BILL | KWH    | PORTION  | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000) | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000)  |         | \$(000) |
|         |         |            |          |          |         |         |          |         |            |           |            |         |         |        |          |         |         |
| 2010    | 0.5193  | 0.0000     | 0.5193   | 1.2000   | 0.0000  | 1.2000  | 19.3793  | 0.0000  | 19.3793    | 2.3360    | 0.0786     | 0.1987  | 0.2773  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2011    | 0.5323  | 0.0000     | 0.5323   | 1.2000   | 0.0000  | 1.2000  | 19.8638  | 0.0000  | 19.8638    | 7.0080    | 0.2556     | 0.6099  | 0.8655  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2012    | 0.5456  | 0.0000     | 0.5456   | 1.2000   | 0.0000  | 1.2000  | 20.3604  | 0.0000  | 20.3604    | 11.6800   | 0.4593     | 1.0397  | 1,4989  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2013    | 0.5593  | 0.0000     | 0.5593   | 1.2000   | 0.0000  | 1.2000  | 20.8694  | 0.0000  | 20.8694    | 16.3520   | 0.6630     | 1.4889  | 2.1519  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2014    | 0.5733  | 0.0000     | 0.5733   | 1.2000   | 0.0000  | 1.2000  | 21.3911  | 0.0000  | 21.3911    | 21.0240   | 0.8714     | 1.9582  | 2.8296  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2015    | 0.5876  | 0.0000     | 0.5876   | 1.2000   | 0.0000  | 1.2000  | 21.9259  | 0.0000  | 21.9259    | 25.6960   | 1.1145     | 2.4482  | 3.5627  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2016    |         | 0.0000     | 0.6023   | 1.2000   | 0.0000  | 1.2000  | 22.4740  | 0.0000  | 22,4740    | 30.3680   | 1.3610     | 2.9596  | 4.3206  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 0.6173  | 0.0000     | 0.6173   | 1.2000   | 0.0000  | 1.2000  | 23.0359  | 0.0000  | 23.0359    | 35.0400   |            |         |         |        |          |         |         |
| 2018    | 0.6328  | 0.0000     | 0.6328   | 1.2000   | 0.0000  | 1.2000  |          |         |            |           | 1.6371     | 3.4932  | 5.1303  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2019    |         | 0.0000     |          |          |         |         | 23.6118  | 0.0000  | 23.6118    | 39.7120   | 1.9298     | 4.0498  | 5.9795  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2019    | 0.0400  | 0.0000     | 0.6486   | 1.2000   | 0.0000  | 1.2000  | 24.2021  | 0.0000  | 24.2021    | 44.3840   | 2.2800     | 4.6301  | 6.9101  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| NONTRA  |         | 0.0000     |          |          |         |         |          |         |            |           |            |         |         |        |          |         |         |
| NOMINAL | 5.8184  | 0.0000     | 5.8184   | 12.0000  | 0.0000  | 12.0000 | 217.1135 | 0.0000  | 217,1135   | 233.6000  | 10.6502    | 22.8762 | 33.5264 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
|         |         |            |          |          |         |         |          |         |            |           |            |         |         |        |          |         |         |
| NPV     | 4.1514  | 0.0000     | 4.1514   | 8.6963   | 0.0000  | 8.6963  | 154.9071 | 0.0000  | 154.9071   |           | 6.6304     | 14.3497 | 20.9800 |        | 0.0000   | 0.0000  | 0.0000  |
|         |         |            |          |          |         |         |          |         |            |           |            |         |         |        |          |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)     | (3)       | (4)      | (5)      | (6)     | (7)     | (8)      | (9)     | (10)       | (11)     | (12)       | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|-----------|----------|----------|---------|---------|----------|---------|------------|----------|------------|---------|---------|--------|---------|---------|---------|
|         | < UTIL  | ITY PROGR | AM COSTS | & REBATE | S       | >       | <        | PARTI   | CIPATING C | USTOMER  | COSTS & BI | ENEFITS |         |        |         |         | >       |
|         |         |           |          |          |         |         |          |         |            |          |            |         |         |        |         |         |         |
|         |         |           | TOTAL    |          |         | TOTAL   | PARTIC.  | PARTIC. | TOTAL      | REDUCT.  | RED.       | RED.    | EFFECT, | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL      | UTIL     | UTIL     | UTIL    | REBATE/ | CUST     | CUST    | PARTIC.    | IN       | REV.       | REV.    | REV.    | IN     | REV.    | REV.    | REVENUE |
|         | NONREC. | RECUR     |          | NONREC.  | RECUR.  | INCENT. | EQUIP    | O & M   | CUST       | CUST.    | - FUEL     | NONFUEL | REDUCT. | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | COSTS     | COSTS    |          | REBATES | COSTS   | COSTS    | COSTS   | COSTS      | KWH      | PORTION    | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000) | \$(000)    | (000)    | \$(000)    | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
| 2010    | 0.0000  | 0.000     |          |          |         |         |          |         |            |          |            |         |         |        |         |         |         |
| 2010    |         | 0.0000    | 0.9089   | 2.1000   | 0.0000  | 2.1000  | 25.9959  | 0.0000  | 25.9959    | 3.2620   | 0.1097     | 0.2679  | 0.3776  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.9316  | 0.0000    | 0.9316   | 2.1000   | 0.0000  | 2.1000  | 26.6458  | 0.0000  | 26.6458    | 9.7860   | 0.3569     | 0.8219  | 1.1789  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.9549  | 0.0000    | 0.9549   | 2.1000   | 0.0000  | 2.1000  | 27.3119  | 0.0000  | 27.3119    | 16.3100  | 0.6413     | 1.4012  | 2.0425  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.9787  | 0.0000    | 0.9787   | 2.1000   | 0.0000  | 2,1000  | 27.9947  | 0.0000  | 27.9947    | 22.8340  | 0.9258     | 2.0064  | 2.9322  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 1.0032  | 0.0000    | 1.0032   | 2.1000   | 0.0000  | 2.1000  | 28.6946  | 0.0000  | 28.6946    | 29.3580  | 1.2168     | 2.6386  | 3.8554  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 1.0283  | 0.0000    | 1.0283   | 2.1000   | 0.0000  | 2.1000  | 29.4120  | 0.0000  | 29.4120    | 35.8820  | 1.5563     | 3.2986  | 4.8549  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 1.0540  | 0.0000    | 1.0540   | 2.1000   | 0.0000  | 2.1000  | 30.1473  | 0.0000  | 30.1473    | 42.4060  | 1.9005     | 3.9874  | 5.8879  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 1.0803  | 0.0000    | 1.0803   | 2.1000   | 0.0000  | 2.1000  | 30.9010  | 0.0000  | 30.9010    | 48.9300  | 2.2860     | 4.7060  | 6.9920  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 1.1074  | 0.0000    | 1.1074   | 2.1000   | 0.0000  | 2.1000  | 31.6735  | 0.0000  | 31.6735    | 55.4540  | 2.6947     | 5.4553  | 8.1501  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 1.1350  | 0.0000    | 1.1350   | 2.1000   | 0.0000  | 2.1000  | 32.4653  | 0.0000  | 32,4653    | 61.9780  | 3.1838     | 6.2365  | 9.4204  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         | -       |           |          |          |         |         |          |         |            |          |            |         |         |        |         |         |         |
| NOMINAL | 10.1823 | 0.0000    | 10.1823  | 21.0000  | 0.0000  | 21.0000 | 291.2420 | 0.0000  | 291.2420   | 326.2000 | 14.8720    | 30.8197 | 45.6917 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |          |         |            |          |            |         |         |        |         |         |         |
| NPV     | 7.2649  | 0.0000    | 7.2649   | 15.2185  | 0.0000  | 15.2185 | 207.7966 | 0.0000  | 207.7966   |          | 9.2587     | 19.3331 | 28.5917 |        | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |          |          |         |         |          |         |            |          |            |         |         |        |         |         |         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     |         | (3)         | (4)      | (5)      | (6)     | (7)     | (8)      | (9)             | (10)       | (11)      | (12)       | (13)    | (14)    | (15)   | (16)    |         | (18)    |
|---------|---------|-------------|----------|----------|---------|---------|----------|-----------------|------------|-----------|------------|---------|---------|--------|---------|---------|---------|
|         | < UTII  | LITY PROGRA | AM COSTS | & REBATE | S       | > ·     | <        | PARTI           | CIPATING C | USTOMER C | COSTS & BE | NEFITS  |         |        |         |         | >       |
|         |         |             | TOTAL    |          |         | TOTAL   | PARTIC.  | PARTIC.         | TOTAL      | REDUCT.   | RED.       | RED.    | EFFECT. | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL        | UTIL     | UTIL     | UTIL    | REBATE/ | CUST     | CUST            | PARTIC.    | IN        | REV.       | REV.    | REV.    | IN     | REV.    |         | REVENUE |
|         | NONREC. | RECUR       | PGM      | NONREC.  | RECUR.  | INCENT. | EQUIP    | O & M           | CUST       | CUST.     | - FUEL     | NONFUEL | REDUCT. | CUST.  | · FUEL: | NONFUEL | INC.    |
|         | COSTS   | COSTS       | COSTS    | REBATES  | REBATES | COSTS   | COSTS    | COSTS           | COSTS      | KWH       | PORTION    | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)     | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000)  | <b>\$</b> (000) | \$(000)    | (000)     | \$(000)    | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
| ***     | 0.5105  |             |          |          |         |         |          |                 |            |           |            |         |         |        |         |         |         |
| 2010    |         | 0.0000      | 0.5193   | 0.8000   | 0.0000  | 0.8000  | 10.5175  | 0.0000          | 10.5175    | 1.4640    | 0.0492     | 0.1215  | 0.1707  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.5323  | 0.0000      | 0.5323   | 0.8000   | 0.0000  | 0.8000  | 10.7805  | 0.0000          | 10.7805    | 4.3920    | 0.1602     | 0.3728  | 0.5329  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.5456  | 0.0000      | 0.5456   | 0.8000   | 0.0000  | 0.8000  | 11.0500  | 0.0000          | 11.0500    | 7.3200    | 0.2878     | 0.6355  | 0.9233  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.5593  | 0.0000      | 0.5593   | 0.8000   | 0.0000  | 0.8000  | 11.3262  | 0.0000          | 11.3262    | 10.2480   | 0.4155     | 0.9100  | 1.3255  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 0.5733  | 0.0000      | 0.5733   | 0.8000   | 0.0000  | 0.8000  | 11.6094  | 0.0000          | 11.6094    | 13.1760   | 0.5461     | 1.1967  | 1.7428  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 0.5876  | 0.0000      | 0.5876   | 0.8000   | 0.0000  | 0.8000  | 11.8996  | 0.0000          | 11.8996    | 16.1040   | 0.6985     | 1.4961  | 2.1946  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 0.6023  | 0.0000      | 0.6023   | 0.8000   | 0.0000  | 0.8000  | 12,1971  | 0.0000          | 12.1971    | 19.0320   | 0.8530     | 1.8085  | 2.6615  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 0.6173  | 0.0000      | 0.6173   | 0.8000   | 0.0000  | 0.8000  | 12.5020  | 0.0000          | 12.5020    | 21.9600   | 1.0260     | 2.1345  | 3.1605  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 0.6328  | 0.0000      | 0.6328   | 0.8000   | 0.0000  | 0.8000  | 12.8146  | 0.0000          | 12.8146    | 24.8880   | 1.2094     | 2,4744  | 3.6838  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 0.6486  | 0.0000      | 0.6486   | 0.8000   | 0.0000  | 0.8000  | 13.1349  | 0.0000          | 13.1349    | 27.8160   | 1.4289     | 2.8288  | 4.2578  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |             |          |          |         |         |          |                 |            |           |            | 2.0200  |         | 31000  | 210000  | 0.000   | 0.000   |
| NOMINAL | 5.8184  | 0.0000      | 5.8184   | 8.0000   | 0.0000  | 8.0000  | 117.8318 | 0.0000          | 117.8318   | 146.4000  | 6.6746     | 13.9787 | 20.6533 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 4.1514  | 0.0000      | 4.1514   | 5.7975   | 0.0000  | 5.7975  | 84.0711  | 0.0000          | 84.0711    |           | 4.1553     | 8.7687  | 12.9240 |        | 0.0000  | 0.0000  | 0.0000  |

**<sup>◆</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK** 

| (1)     | (2)     | (3)        | (4)             | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)      | (12)      | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|------------|-----------------|----------|---------|---------|---------|---------|------------|-----------|-----------|---------|---------|--------|---------|---------|---------|
|         | < UTIL  | ITY PROGRA | AM COSTS        | & REBATE | S       | ·> ·    | <       | PARTIC  | CIPATING C | USTOMER O | OSTS & BE | ENEFITS |         |        |         |         | >       |
|         |         |            | man             |          |         |         |         |         |            |           |           |         |         |        |         |         |         |
|         |         |            | TOTAL           |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.   | RED.      | RED.    | EFFECT. | INC.   | INC.    |         |         |
|         | UTIL    | UTIL       | UTIL            | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN        | REV.      | REV.    | REV.    | IN     | REV.    |         | REVENUE |
|         | NONREC. | RECUR      | PGM             | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.     | - FUEL    | NONFUEL | REDUCT. | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS   | COSTS      | COSTS           | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH       | PORTION   | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | <b>\$</b> (000) | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)   | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |            |                 |          |         |         |         |         |            |           |           |         | •       |        |         |         |         |
| 2010    | 0.1298  | 0.0000     | 0.1298          | 0.1000   | 0.0000  | 0.1000  | 1.5919  | 0.0000  | 1,5919     | 0.2080    | 0.0070    | 0.0166  | 0.0236  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.1331  | 0.0000     | 0.1331          | 0.1000   | 0.0000  | 0.1000  | 1.6317  | 0.0000  | 1.6317     | 0.6240    | 0.0228    | 0.0508  | 0.0736  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.1364  | 0.0000     | 0.1364          | 0.1000   | 0.0000  | 0.1000  | 1.6725  | 0.0000  | 1.6725     | 1.0400    | 0.0409    | 0.0866  | 0.1275  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.1398  | 0.0000     | 0.1398          | 0.1000   | 0.0000  | 0.1000  | 1,7143  | 0.0000  | 1,7143     | 1.4560    | 0.0590    | 0.1240  | 0.1830  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 0.1433  | 0.0000     | 0.1433          | 0.1000   | 0.0000  | 0.1000  | 1.7572  | 0.0000  | 1.7572     | 1.8720    | 0.0776    | 0.1631  | 0.2407  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 0.1469  | 0.0000     | 0.1469          | 0.1000   | 0.0000  | 0.1000  | 1.8011  | 0.0000  | 1.8011     | 2.2880    | 0.0992    | 0.2039  | 0.3031  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 0.1506  | 0.0000     | 0.1506          | 0.1000   | 0.0000  | 0.1000  | 1.8461  | 0.0000  | 1.8461     | 2.7040    | 0.1212    | 0.2464  | 0.3676  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    |         | 0.0000     | 0.1543          | 0.1000   | 0.0000  | 0.1000  | 1.8923  | 0.0000  | 1.8923     | 3.1200    | 0.1458    | 0.2908  | 0.4366  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    |         | 0.0000     | 0.1582          | 0.1000   | 0.0000  | 0.1000  | 1.9396  | 0.0000  | 1.9396     | 3.5360    | 0.1718    | 0.3371  | 0.5089  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    |         | 0.0000     | 0.1621          | 0.1000   | 0.0000  | 0.1000  | 1.9881  | 0.0000  | 1.9881     | 3.9520    | 0.2030    | 0.3853  | 0.5883  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         | ******  | 0.0000     | 01.021          | 0,1000   | 0.0000  | 0.1000  | 1.5001  | 0.0000  | 1.7001     | 5.7520    | 0.2020    | 0.2000  | 0.5000  | 3.5000 | 0.0000  | 013000  | 010002  |
| NOMINAL | 1.4546  | 0.0000     | 1.4546          | 1.0000   | 0.0000  | 1.0000  | 17.8349 | 0.0000  | 17.8349    | 20.8000   | 0.9483    | 1,9046  | 2.8529  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         | 1.1510  | 0.0000     | 1.7540          | 1.0000   | 0.0000  | 1,0000  | 17.0347 | 0.0000  | 17.0577    | 20.0000   | U./TUJ    | 1.7040  | 2.0527  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 1.0378  | 0.0000     | 1.0378          | 0.7247   | 0.0000  | 0.7247  | 12.7249 | 0.0000  | 12,7249    |           | 0.5904    | 1.1948  | 1.7851  |        | 0.0000  | 0.0000  | 0.0000  |
| 141 4   | 1.0370  | 0.0000     | 1.0570          | 0.7247   | 0.0000  | 0.7247  | 14.7249 | 0.0000  | 14,1249    |           | 0.3904    | 1.1940  | 1.7031  |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Indoor Lighting

| (1)     | (2)                                     | (3)       | (4)         | (5)      | (6)     | (7)     | (8)     | (9)     | (10)                                    | (11)          | (12)       | (13)       | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|---|-----------|-------------|----------|---------|---------|---------|---------|---|---------------|------------|------------|------------|--------|---------|---------|---------|
|         | < UTIL                                  | ITY PROGE | AM COSTS    | & REBATE | ES      | >       | <       | PARTI   | CIPATING                                | CUSTOMER (    | COSTS & BE | ENEFITS    |            |        |         |         | ·>      |
|         |   |           |             |          |         |         |         |         |   |               |            |            |            |        |         |         |         |
|         |   |           | TOTAL       |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL                                   | REDUCT.       | RED.       | RED.       |            | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL                                    | UTIL      | UTIL        | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.                                 | IN            | REV.       | REV.       | REV.       | IN     | REV.    | REV. I  | REVENUE |
|         | NONREC.                                 | RECUR     | PGM         | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST                                    | CUST.         | - FUEL     | NONFUEL    | REDUCT.    | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS                                   | COSTS     | COSTS       | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS                                   | KWH           | PORTION    | PORTION    | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)                                 | \$(000)   | \$(000)     | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)                                 | (000)         | \$(000)    | \$(000)    | \$(000)    | (000)  | \$(000) |         | \$(000) |
| '       |   |           |             |          |         |         |         |         |   |               |            |            |            |        |         |         |         |
| 2010    | 385.1484                                | 0.0000    | 385.1484    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 1,455.4520    | 48.9490    | 83.2331    | 132.1822   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 394.7771                                | 0.0000    | 394.7771    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 4,366.3560    | 159,2545   | 255.1590   | 414.4135   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 404.6466                                | 0.0000    | 404.6466    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 7,277.2600    | 286.1400   | 434.5658   | 720.7058   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 414.7627                                | 0.0000    | 414.7627    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 10,188.1640   | 413.0655   | 621.7014   | 1,034.7669 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 425.1318                                | 0.0000    | 425.1318    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 13,099.0680   | 542.9276   | 816.8211   | 1,359.7488 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 435.7601                                | 0.0000    | 435.7601    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 16,009.9720   | 694.4085   | 1,020.1882 | 1,714.5967 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 446.6541                                | 0.0000    | 446.6541    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 18,920.8760   | 847.9864   | 1,232.0732 | 2,080.0596 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 457.8204                                | 0.0000    | 457,8204    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 21.831.7800   | 1.019.9865 | 1,452.7552 | 2.472.7417 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 469,2660                                | 0.0000    | 469.2660    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | 24,742.6840   | 1.202.3424 | 1,682,5213 | 2.884.8637 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 480.9976                                | 0.0000    | 480.9976    | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  |   | 27,653,5880   | •          | *          | •          | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |   |           | .001,271,0  | 3.5000   | 0.000   | 0.000   | 0.000   | 0.000   | *************************************** | ,000.000      | .,         | .,,,       | -,         |        |         |         |         |
| NOMINAL | 4 314 9648                              | 0.0000    | 4.314.9648  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  | ############# | 6 635 6426 | 9 520 6855 | ########   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 0.000     | 1,52 115010 | 0.5000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  |               | 0,030.0.20 | 3,020.0000 |            | 210000 | 0,000   | ******  |         |
| NPV     | 3.078.6596                              | 0.0000    | 3,078.6596  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  |               | 4 131 0618 | 5 974 7088 | #########  |        | 0.0000  | 0.0000  | 0.0000  |
| 141 4   | 5,010.0570                              | 0.0000    | 2,070.0070  | 0.0000   | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000                                  |               | 1,121.0010 | 2,217.1000 | овнинит    |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| (1)     | (2)     | (3)       | (4)             | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)      | (12)            | (13)    | (14)    | (15)   | (16)    | (17)    | (18)    |
|---------|---------|-----------|-----------------|----------|---------|---------|---------|---------|------------|-----------|-----------------|---------|---------|--------|---------|---------|---------|
|         | < UTILI | TY PROGRA | AM COSTS        | & REBATE | S       | > ·     | <       | PARTIO  | CIPATING C | USTOMER ( | COSTS & BE      | ENEFITS |         |        |         |         | >       |
|         |         |           | TOTAL           |          |         | TOTAL   | DARTIC  | DARTIC  | TOTAL      | DEDITOR   | DED             | DED     | FFFFOT  | n ic   | ****    | DIC     | FFFFO   |
|         | 1.77017 | * MOTA    | TOTAL           |          | * ***** | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.   | RED.            | RED.    | EFFECT. | INC.   | INC.    | INC.    | EFFECT. |
|         | UTIL    | UTIL      | UTIL            | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN        | REV.            | REV.    | REV.    | IN     | REV.    |         | REVENUE |
|         | NONREC. | RECUR     |                 | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.     | - FUEL          | NONFUEL | REDUCT. | CUST.  | =       | NONFUEL | INC.    |
|         | COSTS   | COSTS     | COSTS           | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH       | PORTION         | PORTION | IN BILL | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)   | <b>\$</b> (000) | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | <b>\$</b> (000) | \$(000) | \$(000) | (000)  | \$(000) |         | \$(000) |
|         |         |           |                 |          |         |         |         |         |            |           |                 |         | ,       |        |         |         |         |
| 2010    | 0.0690  | 0.0000    | 0.0690          | 0.9340   | 0.0000  | 0.9340  | 2.4920  | 0.0000  | 2.4920     | 0.2608    | 0.0088          | 0.0094  | 0.0181  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 0.0707  | 0.0000    | 0.0707          | 0.9340   | 0.0000  | 0.9340  | 2.5543  | 0.0000  | 2.5543     | 0.7824    | 0.0285          | 0.0286  | 0.0572  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 0.0725  | 0.0000    | 0.0725          | 0.9340   | 0.0000  | 0.9340  | 2.6182  | 0.0000  | 2.6182     | 1,3040    | 0.0513          | 0.0486  | 0.0999  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 0.0743  | 0.0000    | 0.0743          | 0.9340   | 0.0000  | 0.9340  | 2.6836  | 0.0000  | 2.6836     | 1.8255    | 0.0740          | 0.0695  | 0.1435  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 0.0762  | 0.0000    | 0.0762          | 0.9340   | 0.0000  | 0.9340  | 2.7507  | 0.0000  | 2.7507     | 2,3471    | 0.0973          | 0.0911  | 0.1884  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 0.0781  | 0.0000    | 0.0781          | 0.9340   | 0.0000  | 0.9340  | 2.8195  | 0.0000  | 2.8195     | 2.8687    | 0.1244          | 0.1136  | 0.2380  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    |         | 0.0000    | 0.0800          | 0.9340   | 0.0000  | 0.9340  | 2.8900  | 0.0000  | 2.8900     | 3.3903    | 0.1519          | 0.1369  | 0.2889  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 0.0820  | 0.0000    | 0.0820          | 0.9340   | 0.0000  | 0.9340  | 2.9622  | 0.0000  | 2.9622     | 3.9119    | 0.1828          | 0.1611  | 0.3439  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    |         |           |                 |          |         |         |         |         |            |           |                 |         |         |        |         | 0.0000  |         |
|         |         | 0.0000    | 0.0841          | 0.9340   | 0.0000  | 0.9340  | 3.0363  | 0.0000  | 3.0363     | 4.4335    | 0.2154          | 0.1863  | 0.4017  | 0.0000 | 0.0000  |         | 0.0000  |
| 2019    | 0.0862  | 0.0000    | 0.0862          | 0.9340   | 0.0000  | 0.9340  | 3.1122  | 0.0000  | 3.1122     | 4.9550    | 0.2545          | 0.2124  | 0.4669  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |                 |          |         |         |         |         |            |           |                 |         |         |        | عنزر د  |         |         |
| NOMINAL | 0.7733  | 0.0000    | 0.7733          | 9.3401   | 0.0000  | 9.3401  | 27.9188 | 0.0000  | 27.9188    | 26.0792   | 1.1890          | 1.0575  | 2.2465  | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |         |           |                 |          |         |         |         |         |            |           |                 |         |         |        |         |         |         |
| NPV     | 0.5517  | 0.0000    | 0.5517          | 6.7687   | 0.0000  | 6.7687  | 19.9196 | 0.0000  | 19.9196    |           | 0.7402          | 0.6641  | 1.4044  |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Energy Audit

| (1)     | (2)        |            | (4)        |          | (6)     | (7)      | (8)     | (9)          | (10)       | (11)        | (12)       | (13)     | (14)       | (15)   | (16)     | (17)    | (18)     |
|---------|------------|------------|------------|----------|---------|----------|---------|--------------|------------|-------------|------------|----------|------------|--------|----------|---------|----------|
|         | < UTI      | LITY PROGI | RAM COSTS  | & REBATE | S       | > •      | <       | PARTIO       | CIPATING ( | CUSTOMER (  | COSTS & BI | NEFITS   |            |        |          |         | <i>-</i> |
|         |            |            | TOTAL      |          |         | TOTAL    | DARTIC  | D. 1 D. 2010 | <b></b>    |             |            | -        |            |        |          | ****    |          |
|         | * ICDIY    | T (CDI)    | TOTAL      |          |         | TOTAL    | PARTIC. | PARTIC.      | TOTAL      | REDUCT.     | RED.       | RED.     | EFFECT.    | INC.   | INC.     | INC.    | EFFECT.  |
|         | UTIL       | UTIL       | UTIL       | UTIL     | UTIL    | REBATE/  | CUST    | CUST         | PARTIC.    | IN          | REV.       | REV.     | REV.       | ΙN     | REV.     |         | REVENUE  |
|         | NONREC.    | RECUR      |            |          | RECUR.  | INCENT.  | EQUIP   | O & M        | CUST       | CUST.       | - FUEL     | NONFUEL  | REDUCT.    | CUST.  | - FUEL I | NONFUEL | INC.     |
|         | COSTS      | COSTS      | COSTS      | REBATES  | REBATES | COSTS    | COSTS   | COSTS        | COSTS      | KWH         | PORTION    | PORTION  | IN BILL    | KWH    | PORTION  | PORTION | IN BILL  |
| YEAR    | \$(000)    | \$(000)    | \$(000)    | \$(000)  | \$(000) | \$(000)  | \$(000) | \$(000)      | \$(000)    | (000)       | \$(000)    | \$(000)  | \$(000)    | (000)  | \$(000)  |         | \$(000)  |
|         |            |            |            |          |         |          |         |              |            |             |            |          |            |        |          |         |          |
| 2010    | 142.9722   | 0.0000     | 142.9722   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 105.2264    | 3.5389     | 5.5439   | 9.0828     | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2011    | 146.5466   | 0.0000     | 146.5466   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 315.6792    | 11.5138    | 16,9909  | 28.5047    | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2012    | 150.2102   | 0.0000     | 150.2102   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 526.1320    | 20.6874    | 28.9299  | 49.6173    | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2013    | 153.9655   | 0.0000     | 153.9655   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 736,5848    | 29.8638    | 41.3770  | 71.2409    | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2014    | 157.8146   | 0.0000     | 157.8146   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 947.0376    | 39.2526    | 54.3488  | 93.6015    | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2015    | 161,7600   | 0.0000     | 161,7600   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 1,157.4904  | 50.2044    | 67.8624  | 118.0668   | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2016    | 165.8040   | 0.0000     | 165.8040   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 1,367,9432  | 61.3078    | 81.9352  | 143.2430   | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2017    | 169,9491   | 0.0000     | 169.9491   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 1,578,3960  | 73.7431    | 96.5854  | 170.3285   | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2018    | 174.1978   | 0.0000     | 174.1978   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 1,788.8488  | 86.9271    | 111.8316 | 198.7587   | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| 2019    | 178.5527   | 0.0000     | 178.5527   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     |             |            |          |            |        |          |         |          |
| 2017    | 170.3327   | 0.0000     | 176.3327   | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 1,999.3016  | 102.7054   | 127.6930 | 230.3984   | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| NOMINAL | 1 601 7777 | 0.0000     | 1.601.7727 | 0.0000   | . 0.000 | . 0.0000 | 0.0000  | 0.0000       | 0.0000     | 10.622.6400 | 470 7443   | (33 0000 | 1 110 0405 |        | 0.0000   | 0.0000  |          |
| NOMINAL | 1,001.7727 | 0.0000     | 1,001.//2/ | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     | 10,522.6400 | 479.7443   | 633.0982 | 1,112.8425 | 0.0000 | 0.0000   | 0.0000  | 0.0000   |
| MDM     | 1 142 0206 | 0.0000     | 1 142 0204 | 0.0000   | 0.0000  | 0.0000   |         |              |            |             |            |          |            |        |          |         |          |
| NPV     | 1,142.8396 | 0.0000     | 1,142.8396 | 0.0000   | 0.0000  | 0.0000   | 0.0000  | 0.0000       | 0.0000     |             | 298.6679   | 397.3466 | 696.0145   |        | 0.0000   | 0.0000  | 0.0000   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Energy Efficiency Duct

| (1)     |         | (3)        | (4)      | (5)      | (6)     | (7)     | (8)     | (9)     | (10)       | (11)      | (12)      | (13)    | (14)    | (15)                                  | (16)     | (17)    | (18)    |
|---------|---------|------------|----------|----------|---------|---------|---------|---------|------------|-----------|-----------|---------|---------|---------------------------------------|----------|---------|---------|
|         | < UTIL  | ITY PROGRA | AM COSTS | & REBATE | S       | > -     | <       | PARTIO  | CIPATING C | USTOMER ( | OSTS & BE | NEFITS  |         |                                       |          |         | >       |
|         |         |            |          |          |         |         |         |         |            |           |           |         |         |                                       |          |         |         |
|         |         |            | TOTAL    |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL      | REDUCT.   | RED.      | RED.    | EFFECT. | INC.                                  | INC.     | INC.    | EFFECT. |
|         | UTIL    | UTIL       | UTIL     | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.    | IN        | REV.      | REV.    | REV.    | IN                                    | REV.     | REV.    | REVENUE |
|         | NONREC. | RECUR      | PGM      | NONREC.  | RECUR.  | INCENT. | EQUIP   | O & M   | CUST       | CUST.     | - FUEL    | NONFUEL | REDUCT. | CUST.                                 | - FUEL I | NONFUEL | INC.    |
|         | COSTS   | COSTS      | COSTS    | REBATES  | REBATES | COSTS   | COSTS   | COSTS   | COSTS      | KWH       | PORTION   | PORTION | IN BILL | KWH                                   | PORTION  | PORTION | IN BILL |
| YEAR    | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | \$(000)    | (000)     | \$(000)   | \$(000) | \$(000) | (000)                                 | \$(000)  |         | \$(000) |
|         |         |            |          |          |         |         |         |         |            |           | 1         |         |         | · · · · · · · · · · · · · · · · · · · | ` '      |         |         |
| 2010    | 0.4510  | 0.0000     | 0.4510   | 1.5000   | 0.0000  | 1.5000  | 4.5000  | 0.0000  | 4.5000     | 1.8800    | 0.0632    | 0.1735  | 0.2367  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2011    | 0.4623  | 0.0000     | 0.4623   | 1.5000   | 0.0000  | 1.5000  | 4.6125  | 0.0000  | 4.6125     | 5.6400    | 0.2057    | 0.5325  | 0.7382  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2012    | 0.4738  | 0.0000     | 0.4738   | 1.5000   | 0.0000  | 1.5000  | 4.7278  | 0.0000  | 4.7278     | 9.4000    | 0.3696    | 0.9079  | 1.2775  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2013    | 0.4857  | 0.0000     | 0.4857   | 1.5000   | 0.0000  | 1.5000  | 4.8460  | 0.0000  | 4.8460     | 13.1600   | 0.5336    | 1.3004  | 1.8340  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2014    | 0.4978  | 0.0000     | 0.4978   | 1.5000   | 0.0000  | 1.5000  | 4.9672  | 0.0000  | 4.9672     | 16.9200   | 0.7013    | 1.7106  | 2.4119  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2015    | 0.5103  | 0.0000     | 0.5103   | 1.5000   | 0.0000  | 1.5000  | 5.0913  | 0.0000  | 5.0913     | 20.6800   | 0.8970    | 2.1389  | 3.0359  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2016    | 0.5230  | 0.0000     | 0.5230   | 1.5000   | 0.0000  | 1.5000  | 5.2186  | 0.0000  | 5.2186     | 24.4400   | 1.0953    | 2.5862  | 3.6815  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 0.5361  | 0.0000     | 0.5361   | 1.5000   | 0.0000  | 1.5000  | 5.3491  | 0.0000  | 5.3491     | 28.2000   | 1.3175    | 3.0530  | 4.3705  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2018    | 0.5495  | 0.0000     | 0.5495   | 1.5000   | 0.0000  | 1.5000  | 5,4828  | 0.0000  | 5.4828     | 31.9600   | 1.5531    | 3.5400  | 5.0930  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
| 2019    | 0.5632  | 0.0000     | 0.5632   | 1.5000   | 0.0000  | 1.5000  | 5.6199  | 0.0000  | 5.6199     | 35.7200   | 1.8350    | 4.0478  | 5.8828  | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
|         |         |            |          |          |         |         |         |         |            |           |           |         |         |                                       |          |         |         |
| NOMINAL | 5.0527  | 0.0000     | 5.0527   | 15.0000  | 0.0000  | 15.0000 | 50.4152 | 0.0000  | 50.4152    | 188.0000  | 8.5712    | 19.9908 | 28.5621 | 0.0000                                | 0.0000   | 0.0000  | 0.0000  |
|         |         |            |          |          |         |         |         |         |            |           |           |         |         |                                       |          | 500     |         |
| NPV     | 3.6050  | 0.0000     | 3.6050   | 10.8703  | 0.0000  | 10.8703 | 35.9705 | 0.0000  | 35.9705    |           | 5.3361    | 12.5389 | 17.8750 |                                       | 0.0000   | 0.0000  | 0.0000  |
|         |         |            |          |          |         |         |         |         |            |           |           |         |         |                                       | 2.3000   | 5.5000  | 4000    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

#### \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN <u>PROGRAM: Commercial Energy Efficiency Cool Roof</u>

| (1)     | (2)        | (3)      | (4)        | (5)      | (6)     | (7)      | (8)        | (9)       | (10)       | (11)        | (12)       | (13)       | (14)       | (15)   | (16)    | (17)    | (18)    |
|---------|------------|----------|------------|----------|---------|----------|------------|-----------|------------|-------------|------------|------------|------------|--------|---------|---------|---------|
|         | < UTILI    | TY PROGI | RAM COSTS  | & REBATE | S       | >        | <          | PART      | ICIPATING  | CUSTOMER    | COSTS & BI | ENEFITS    |            |        |         |         | >       |
|         |            |          | TOTAL      |          |         | TOTAL    | DARTIO     | D A DETIC | TOTAL      | DEDUCE      | 855        |            |            |        |         |         |         |
|         | LICOTA     |          | TOTAL      |          |         | TOTAL    |            | PARTIC.   | TOTAL      | REDUCT.     |            |            |            | INC.   | INC.    | INC.    |         |
|         | UTIL       | UTIL     | UTIL       | UTIL     | UTIL    | REBATE/  |            | CUST      | PARTIC.    | IN          |            | REV.       |            | IN     | REV.    | REV.    | REVENUE |
|         | NONREC.    | RECUR    |            | NONREC.  | RECUR.  | INCENT.  |            | O & M     | CUST       | CUST.       | - FUEL     | NONFUEL    | REDUCT.    | CUST.  | - FUEL  | NONFUEL | INC.    |
|         | COSTS      | COSTS    | COSTS      |          | REBATES | COSTS    | COSTS      | COSTS     | COSTS      | KWH         | PORTION    | PORTION    | IN BILL    | KWH    | PORTION | PORTION | IN BILL |
| YEAR    | \$(000)    | \$(000)  | \$(000)    | \$(000)  | \$(000) | \$(000)  | \$(000)    | \$(000)   | \$(000)    | (000)       | \$(000)    | \$(000)    | \$(000)    | (000)  | \$(000) |         | \$(000) |
|         |            |          |            |          |         |          |            |           |            |             |            |            |            |        |         |         |         |
| 2010    | 120.5018   | 0.0000   | 120.5018   | 30.2170  | 0.0000  | 30.2170  | 411.1567   | 0.0000    | 411.1567   | 455.3692    | 15.3147    | 16.3300    | 31.6448    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2011    | 123.5144   | 0.0000   | 123.5144   | 30.2170  | 0.0000  | 30.2170  | 421.4356   | 0.0000    | 421.4356   | 1,366.1076  | 49.8262    | 49.9699    | 99.7960    | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2012    | 126.6022   | 0.0000   | 126.6022   | 30.2170  | 0.0000  | 30.2170  | 431.9715   | 0.0000    | 431.9715   | 2,276.8461  | 89.5250    | 84.9488    | 174.4738   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2013    | 129.7673   | 0.0000   | 129.7673   | 30.2170  | 0.0000  | 30.2170  | 442.7708   | 0.0000    | 442.7708   | 3,187.5845  | 129.2364   | 121.3069   | 250.5432   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2014    | 133.0115   | 0.0000   | 133.0115   | 30.2170  | 0.0000  | 30.2170  | 453.8401   | 0.0000    | 453.8401   | 4,098,3229  | 169.8665   | 159.0853   | 328.9518   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2015    | 136.3368   | 0.0000   | 136.3368   | 30.2170  | 0.0000  | 30.2170  | 465.1861   | 0.0000    | 465.1861   | 5.009.0613  | 217.2605   | 198.3264   | 415,5869   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2016    | 139.7452   | 0.0000   | 139.7452   | 30.2170  | 0.0000  | 30.2170  | 476.8157   | 0.0000    | 476.8157   | 5,919.7997  | 265.3106   | 239,0735   | 504.3842   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2017    | 143,2388   | 0.0000   | 143.2388   | 30.2170  | 0.0000  | 30.2170  | 488.7361   | 0.0000    | 488.7361   | 6,830.5382  | 319.1245   | 281.3712   | 600.4957   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2018    | 146,8198   | 0.0000   | 146.8198   | 30.2170  | 0.0000  | 30.2170  | 500.9545   | 0.0000    | 500.9545   | 7,741.2766  | 376.1785   | 325.2651   | 701.4436   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| 2019    | 150.4903   | 0.0000   | 150.4903   | 30.2170  | 0.0000  | 30.2170  | 513,4784   | 0.0000    | 513.4784   | 8,652.0150  | 444,4594   | 370.8023   | 815.2617   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         |            |          |            |          | 0.0000  | 00.21,5  | 0.01.70.   | 0.0000    | 315.1101   | 0,002.0100  | ,,,,,,,,,  | 570.0025   | 013.2017   | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NOMINAL | 1.350.0280 | 0.0000   | 1,350.0280 | 302.1697 | 0.0000  | 302 1697 | 4,606.3454 | 0.0000    | 4 606 3454 | 45,536.9211 | 2 076 1024 | 1.846.4794 | 3 922 5818 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
|         | -,         | ******   | 1,010.010  | 002.107. | 0.0000  | 502.1077 | 1,000.0101 | 0.0000    | 1,000.5757 | 15,550.7211 | 2,010,1024 | 1,040.4774 | 3,722.3010 | 0.0000 | 0.0000  | 0.0000  | 0.0000  |
| NPV     | 963.2238   | 0.0000   | 963.2238   | 218.9790 | 0.0000  | 218 9790 | 3,286.5551 | 0.0000    | 3,286.5551 |             | 1,292,4908 | 1 150 6041 | 2.452.1940 |        | 0.0000  | 0.0000  | 0.000   |
| 141 ,   | 700.2200   | 0.0000   | 705.2250   | 210.7770 | 0.0000  | 210.9770 | 3,200.3331 | 0.0000    | J,200.JJJ1 |             | 1,272.4900 | 1,137.0941 | 2,432.1049 |        | 0.0000  | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: UTILITY COSTS, PARTICIPANT COSTS, AND REV LOSS/GAIN PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| (1)     | (2)     | (3)                                   | (4)      | (5)      | (6)     | (7)     | (8)     | (9)     | (10)            | (11)      | (12)      | (13)    | (14)    | (15)   | (16)     | (17)    | (18)    |
|---------|---------|---------------------------------------|----------|----------|---------|---------|---------|---------|-----------------|-----------|-----------|---------|---------|--------|----------|---------|---------|
|         | < UTIL  | ITY PROGRA                            | AM COSTS | & REBATE | S       | > ·     | <       | PARTIO  | CIPATING C      | USTOMER C | OSTS & BE | NEFITS  |         |        |          |         | ··>     |
|         |         |                                       | TOTAL    |          |         | TOTAL   | PARTIC. | PARTIC. | TOTAL           | REDUCT.   | RED.      | RED.    | EFFECT. | INC.   | INC.     | INC.    | EFFECT. |
|         | UTIL    | UTIL                                  | UTIL     | UTIL     | UTIL    | REBATE/ | CUST    | CUST    | PARTIC.         | IN        | REV.      | REV.    | REV.    | IN     | REV.     |         | REVENUE |
|         | NONREC. | RECUR                                 |          | NONREC.  | RECUR.  | INCENT. | EQUIP   | 0 & M   | CUST            | CUST.     |           | NONFUEL | REDUCT. | CUST.  |          | NONFUEL | INC.    |
|         | COSTS   | COSTS                                 |          | REBATES  |         | COSTS   | COSTS   | COSTS   | COSTS           |           | PORTION   |         | IN BILL |        | PORTION  |         | IN BILL |
| YEAR    |         | \$(000)                               | \$(000)  | \$(000)  | \$(000) | \$(000) | \$(000) | \$(000) | <b>\$</b> (000) | (000)     | \$(000)   | \$(000) | \$(000) | (000)  | \$(000)  |         | \$(000) |
|         |         | · · · · · · · · · · · · · · · · · · · |          |          |         |         |         |         |                 |           |           |         |         | \      | <u> </u> |         |         |
| 2010    | 0.4562  | 0.0000                                | 0.4562   | 0.7000   | 0.0000  | 0.7000  | 4.0352  | 0.0000  | 4.0352          | 1.9740    | 0.0664    | 0.1291  | 0.1955  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2011    | 0.4676  | 0.0000                                | 0.4676   | 0.7000   | 0.0000  | 0.7000  | 4.1360  | 0.0000  | 4.1360          | 5.9220    | 0.2160    | 0.3960  | 0.6120  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2012    | 0.4793  | 0.0000                                | 0.4793   | 0.7000   | 0.0000  | 0.7000  | 4.2394  | 0.0000  | 4.2394          | 9.8700    | 0.3881    | 0.6747  | 1.0628  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2013    | 0.4913  | 0.0000                                | 0.4913   | 0.7000   | 0.0000  | 0.7000  | 4.3454  | 0.0000  | 4.3454          | 13.8180   | 0.5602    | 0.9657  | 1.5259  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2014    | 0.5035  | 0.0000                                | 0.5035   | 0.7000   | 0.0000  | 0.7000  | 4.4541  | 0.0000  | 4.4541          | 17.7660   | 0.7364    | 1.2692  | 2.0056  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2015    | 0.5161  | 0.0000                                | 0.5161   | 0.7000   | 0.0000  | 0.7000  | 4.5654  | 0.0000  | 4.5654          | 21,7140   | 0.9418    | 1.5858  | 2.5277  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2016    | 0.5290  | 0.0000                                | 0.5290   | 0.7000   | 0.0000  | 0.7000  | 4.6795  | 0.0000  | 4.6795          | 25.6620   | 1.1501    | 1.9159  | 3.0661  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2017    | 0.5423  | 0.0000                                | 0.5423   | 0.7000   | 0.0000  | 0.7000  | 4.7965  | 0.0000  | 4.7965          | 29.6100   | 1.3834    | 2.2600  | 3.6434  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2018    | 0.5558  | 0.0000                                | 0.5558   | 0.7000   | 0.0000  | 0.7000  | 4.9164  | 0.0000  | 4.9164          | 33.5580   | 1.6307    | 2.6185  | 4.2492  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
| 2019    | 0.5697  | 0.0000                                | 0.5697   | 0.7000   | 0.0000  | 0.7000  | 5.0393  | 0.0000  | 5.0393          | 37.5060   | 1.9267    | 2.9918  | 4.9185  | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
|         |         |                                       |          |          |         |         |         |         |                 |           |           |         |         |        |          |         |         |
| NOMINAL | 5.1108  | 0.0000                                | 5.1108   | 7.0000   | 0.0000  | 7.0000  | 45.2073 | 0.0000  | 45.2073         | 197.4000  | 8.9998    | 14.8068 | 23.8066 | 0.0000 | 0.0000   | 0.0000  | 0.0000  |
|         |         |                                       |          |          |         |         |         |         |                 |           |           |         |         |        |          |         |         |
| NPV     | 3.6465  | 0.0000                                | 3.6465   | 5.0728   | 0.0000  | 5.0728  | 32.2547 | 0.0000  | 32.2547         |           | 5.6029    | 9.2904  | 14.8933 |        | 0.0000   | 0.0000  | 0.0000  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)                                   | (7)       |
|---------|--------------|-------------|---------------------|--------------|---------------------------------------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET                                   |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED                               | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM                               | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL                                  | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS                               | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)                               | \$(000)   |
|         |              |             |                     | , .·         | · · · · · · · · · · · · · · · · · · · |           |
| 2010    | 4.9934       | 0.1862      | 0.0000              | 0.0000       | 0.1862                                | 0.1862    |
| 2011    | 14.9801      | 0.5877      | 0.0000              | 0.0000       | 0.5877                                | 0.5877    |
| 2012    | 24.9668      | 1.0516      | 0.0000              | 0.0000       | 1.0516                                | 1.0516    |
| 2013    | 34.9536      | 1.5376      | 0.0000              | 0.0000       | 1.5376                                | 1.5376    |
| 2014    | 44.9403      | 2.0605      | 0.0000              | 0.0000       | 2.0605                                | 2.0605    |
| 2015    | 54.9270      | 2.6519      | 0.0000              | 0.0000       | 2.6519                                | 2.6519    |
| 2016    | 64.9138      | 3.2723      | 0.0000              | 0.0000       | 3.2723                                | 3.2723    |
| 2017    | 74.9005      | 4.0004      | 0.0000              | 0.0000       | 4.0004                                | 4.0004    |
| 2018    | 84.8872      | 4.6960      | 0.0000              | 0.0000       | 4.6960                                | 4.6960    |
| 2019    | 94.8740      | 5.6042      | 0.0000              | 0.0000       | 5.6042                                | 5.6042    |
| NOMINAL | 499.3367     | 25.6483     | 0.0000              | 0.0000       | 25.6483                               | 25.6483   |
| NPV     |              | 15.9087     | 0.0000              | 0.0000       | 15.9087                               | 15.9087   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)       |
|---------|--------------|-------------|--------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         |              |             | •            |              |         |           |
| 2010    | 0.1873       | 0.0070      | 0.0000       | 0.0000       | 0.0070  | 0.0070    |
| 2011    | 0.5619       | 0.0220      | 0.0000       | 0.0000       | 0.0220  | 0.0220    |
| 2012    | 0.9366       | 0.0394      | 0.0000       | 0.0000       | 0.0394  | 0.0394    |
| 2013    | 1.3112       | 0.0577      | 0.0000       | 0.0000       | 0.0577  | 0.0577    |
| 2014    | 1.6858       | 0.0773      | 0.0000       | 0.0000       | 0.0773  | 0.0773    |
| 2015    | 2.0605       | 0.0995      | 0.0000       | 0.0000       | 0.0995  | 0.0995    |
| 2016    | 2.4351       | 0.1228      | 0.0000       | 0.0000       | 0.1228  | 0.1228    |
| 2017    | 2.8097       | 0.1501      | 0.0000       | 0.0000       | 0.1501  | 0.1501    |
| 2018    | 3.1844       | 0.1762      | 0.0000       | 0.0000       | 0.1762  | 0.1762    |
| 2019    | 3.5590       | 0.2102      | 0.0000       | 0.0000       | 0.2102  | 0.2102    |
| NO IDIA | ····         |             |              |              |         |           |
| NOMINAL | 18.7316      | 0.9621      | 0.0000       | 0.0000       | 0.9621  | 0.9621    |
| NPV     |              | 0.5968      | 0.0000       | 0.0000       | 0.5968  | 0.5968    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Single Family Survey Walk Through

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)        | (7)        |
|---------|--------------|-------------|--------------|--------------|------------|------------|
|         | REDUCTION    |             | INCREASE     |              | NET        |            |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED    | EFFECTIVE  |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM    | PROGRAM    |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL       | FUEL       |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS    | SAVINGS    |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)    | \$(000)    |
|         |              |             |              |              | ``         |            |
| 2010    | 275.4521     | 10.2689     | 0.0000       | 0.0000       | 10.2689    | 10.2689    |
| 2011    | 826.3564     | 32.4180     | 0.0000       | 0.0000       | 32.4180    | 32.4180    |
| 2012    | 1,377.2607   | 58.0102     | 0.0000       | 0.0000       | 58.0102    | 58.0102    |
| 2013    | 1,928.1649   | 84.8200     | 0.0000       | 0.0000       | 84.8200    | 84.8200    |
| 2014    | 2,479.0692   | 113.6653    | 0.0000       | 0.0000       | 113.6653   | 113.6653   |
| 2015    | 3,029.9735   | 146.2871    | 0.0000       | 0.0000       | 146.2871   | 146.2871   |
| 2016    | 3,580.8777   | 180.5120    | 0.0000       | 0.0000       | 180.5120   | 180.5120   |
| 2017    | 4,131.7820   | 220.6785    | 0.0000       | 0.0000       | 220.6785   | 220.6785   |
| 2018    | 4,682.6863   | 259.0462    | 0.0000       | 0.0000       | 259.0462   | 259.0462   |
| 2019    | 5,233.5905   | 309.1482    | 0.0000       | 0.0000       | 309.1482   | 309.1482   |
| NOMINAL | 27,545.2133  | 1,414.8544  | 0.0000       | 0.0000       | 1,414.8544 | 1,414.8544 |
| NPV     |              | 877.5833    | 0.0000       | 0.0000       | 877.5833   | 877.5833   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

## \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Single Family Survey Video & DVDs

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)       |
|---------|--------------|-------------|--------------|--------------|----------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET      |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)   |
|         |              |             |              |              |          |           |
| 2010    | 123.7752     | 4.6143      | 0.0000       | 0.0000       | 4.6143   | 4.6143    |
| 2011    | 371.3257     | 14.5671     | 0.0000       | 0.0000       | 14.5671  | 14.5671   |
| 2012    | 618.8762     | 26.0671     | 0.0000       | 0.0000       | 26.0671  | 26.0671   |
| 2013    | 866.4266     | 38.1141     | 0.0000       | 0.0000       | 38.1141  | 38.1141   |
| 2014    | 1,113.9771   | 51.0759     | 0.0000       | 0.0000       | 51.0759  | 51.0759   |
| 2015    | 1,361.5276   | 65.7346     | 0.0000       | 0.0000       | 65.7346  | 65.7346   |
| 2016    | 1,609.0780   | 81.1136     | 0.0000       | 0.0000       | 81.1136  | 81.1136   |
| 2017    | 1,856.6285   | 99.1625     | 0.0000       | 0.0000       | 99.1625  | 99.1625   |
| 2018    | 2,104.1790   | 116.4032    | 0.0000       | 0.0000       | 116.4032 | 116.4032  |
| 2019    | 2,351.7294   | 138.9167    | 0.0000       | 0.0000       | 138.9167 | 138.9167  |
| NOMINAL | 12,377.5234  | 635.7690    | 0.0000       | 0.0000       | 635.7690 | 635.7690  |
| NPV     |              | 394.3447    | 0.0000       | 0.0000       | 394.3447 | 394.3447  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

#### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Single Family Survey On Line

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)      | (7)                                   |
|---------|--------------|-------------|---------------------|--------------|----------|---------------------------------------|
|         | REDUCTION    |             | INCREASE            |              | NET      |                                       |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED  | EFFECTIVE                             |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM  | PROGRAM                               |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL     | FUEL                                  |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS  | SAVINGS                               |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)  | \$(000)                               |
|         |              |             |                     |              |          | · · · · · · · · · · · · · · · · · · · |
| 2010    | 89.9688      | 3.3540      | 0.0000              | 0.0000       | 3.3540   | 3.3540                                |
| 2011    | 269.9063     | 10.5884     | 0.0000              | 0.0000       | 10.5884  | 10.5884                               |
| 2012    | 449.8439     | 18.9474     | 0.0000              | 0.0000       | 18.9474  | 18.9474                               |
| 2013    | 629.7815     | 27.7041     | 0.0000              | 0.0000       | 27.7041  | 27.7041                               |
| 2014    | 809.7190     | 37.1256     | 0.0000              | 0.0000       | 37.1256  | 37.1256                               |
| 2015    | 989.6566     | 47.7806     | 0.0000              | 0.0000       | 47.7806  | 47.7806                               |
| 2016    | 1,169.5942   | 58.9592     | 0.0000              | 0.0000       | 58.9592  | 58.9592                               |
| 2017    | 1,349.5317   | 72.0785     | 0.0000              | 0.0000       | 72.0785  | 72.0785                               |
| 2018    | 1,529.4693   | 84.6102     | 0.0000              | 0.0000       | 84.6102  | 84.6102                               |
| 2019    | 1,709.4069   | 100.9747    | 0.0000              | 0.0000       | 100.9747 | 100.9747                              |
| NOMINAL | 8,996.8783   | 462.1229    | 0.0000              | 0.0000       | 462.1229 | 462.1229                              |
| NPV     |              | 286.6382    | 0.0000              | 0.0000       | 286.6382 | 286.6382                              |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)                                   | (7)       |
|---------|--------------|-------------|---------------------|--------------|---------------------------------------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET                                   |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED                               | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM                               | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL                                  | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS                               | SAVINGS   |
| YEAR_   | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)                               | \$(000)   |
|         |              |             |                     |              | · · · · · · · · · · · · · · · · · · · |           |
| 2010    | 21.3528      | 0.7960      | 0.0000              | 0.0000       | 0.7960                                | 0.7960    |
| 2011    | 64.0583      | 2.5130      | 0.0000              | 0.0000       | 2.5130                                | 2.5130    |
| 2012    | 106.7638     | 4.4969      | 0.0000              | 0.0000       | 4.4969                                | 4.4969    |
| 2013    | 149.4693     | 6.5752      | 0.0000              | 0.0000       | 6.5752                                | 6.5752    |
| 2014    | 192.1748     | 8.8112      | 0.0000              | 0.0000       | 8.8112                                | 8.8112    |
| 2015    | 234.8803     | 11.3400     | 0.0000              | 0.0000       | 11.3400                               | 11.3400   |
| 2016    | 277.5858     | 13.9931     | 0.0000              | 0.0000       | 13.9931                               | 13.9931   |
| 2017    | 320.2914     | 17.1068     | 0.0000              | 0.0000       | 17.1068                               | 17.1068   |
| 2018    | 362.9969     | 20.0810     | 0.0000              | 0.0000       | 20.0810                               | 20.0810   |
| 2019    | 405.7024     | 23.9648     | 0.0000              | 0.0000       | 23.9648                               | 23.9648   |
|         |              |             |                     |              |                                       |           |
| NOMINAL | 2,135.2758   | 109.6780    | 0.0000              | 0.0000       | 109.6780                              | 109.6780  |
|         |              |             |                     |              |                                       |           |
| NPV     |              | 68.0293     | 0.0000              | 0.0000       | 68.0293                               | 68.0293   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)                 | (3)         | (4)          | (5)          | (6)      | (7)       |
|---------|---------------------|-------------|--------------|--------------|----------|-----------|
|         | REDUCTION           |             | INCREASE     |              | NET      |           |
|         | IN KWH              | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION          | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM   |
|         | <b>NET NEW CUST</b> | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL      |
|         | KWH                 | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)               | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)   |
|         |                     |             |              |              |          |           |
| 2010    | 43.7544             | 1.6312      | 0.0000       | 0.0000       | 1.6312   | 1.6312    |
| 2011    | 131.2633            | 5.1495      | 0.0000       | 0.0000       | 5.1495   | 5.1495    |
| 2012    | 218.7721            | 9.2147      | 0.0000       | 0.0000       | 9.2147   | 9.2147    |
| 2013    | 306.2810            | 13.4733     | 0.0000       | 0.0000       | 13.4733  | 13.4733   |
| 2014    | 393.7898            | 18.0553     | 0.0000       | 0.0000       | 18.0553  | 18.0553   |
| 2015    | 481.2986            | 23.2371     | 0.0000       | 0.0000       | 23.2371  | 23.2371   |
| 2016    | 568.8075            | 28.6736     | 0.0000       | 0.0000       | 28.6736  | 28.6736   |
| 2017    | 656.3163            | 35.0539     | 0.0000       | 0.0000       | 35.0539  | 35.0539   |
| 2018    | 743.8252            | 41.1484     | 0.0000       | 0.0000       | 41.1484  | 41.1484   |
| 2019    | 831.3340            | 49.1069     | 0.0000       | 0.0000       | 49.1069  | 49.1069   |
|         |                     |             |              |              |          |           |
| NOMINAL | 4,375.4422          | 224.7437    | 0.0000       | 0.0000       | 224.7437 | 224.7437  |
| NPV     |                     | 139.4005    | 0.0000       | 0.0000       | 139.4005 | 139.4005  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)                 | (3)         | (4)                 | (5)          | (6)      | (7)       |
|---------|---------------------|-------------|---------------------|--------------|----------|-----------|
|         | REDUCTION           |             | INCREASE            |              | NET      |           |
|         | IN KWH              | AVOIDED     | IN KWH              | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION          | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM  | PROGRAM   |
|         | <b>NET NEW CUST</b> | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL     | FUEL      |
|         | KWH                 | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)               | \$(000)     | (000)               | \$(000)      | \$(000)  | \$(000)   |
|         |                     |             |                     |              |          |           |
| 2010    | 53.3403             | 1.9885      | 0.0000              | 0.0000       | 1.9885   | 1.9885    |
| 2011    | 160.0208            | 6.2776      | 0.0000              | 0.0000       | 6.2776   | 6.2776    |
| 2012    | 266.7014            | 11.2335     | 0.0000              | 0.0000       | 11.2335  | 11.2335   |
| 2013    | 373.3819            | 16.4251     | 0.0000              | 0.0000       | 16.4251  | 16.4251   |
| 2014    | 480.0624            | 22.0109     | 0.0000              | 0.0000       | 22.0109  | 22.0109   |
| 2015    | 586.7430            | 28.3280     | 0.0000              | 0.0000       | 28.3280  | 28.3280   |
| 2016    | 693.4235            | 34.9555     | 0.0000              | 0.0000       | 34.9555  | 34.9555   |
| 2017    | 800.1041            | 42.7336     | 0.0000              | 0.0000       | 42.7336  | 42.7336   |
| 2018    | 906.7846            | 50.1633     | 0.0000              | 0.0000       | 50.1633  | 50.1633   |
| 2019    | 1,013.4651          | 59.8654     | 0.0000              | 0.0000       | 59.8654  | 59.8654   |
| NOMINAL | 5,334.0271          | 273.9812    | 0.0000              | 0.0000       | 273.9812 | 273.9812  |
| NPV     |                     | 169.9407    | 0.0000              | 0.0000       | 169.9407 | 169.9407  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)       |
|---------|--------------|-------------|--------------|--------------|----------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET      |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)   |
|         |              |             |              |              |          |           |
| 2010    | 145.8668     | 5.4379      | 0.0000       | 0.0000       | 5.4379   | 5.4379    |
| 2011    | 437.6004     | 17.1671     | 0.0000       | 0.0000       | 17.1671  | 17.1671   |
| 2012    | 729.3340     | 30.7195     | 0.0000       | 0.0000       | 30.7195  | 30.7195   |
| 2013    | 1,021.0676   | 44.9168     | 0.0000       | 0.0000       | 44.9168  | 44.9168   |
| 2014    | 1,312.8012   | 60.1919     | 0.0000       | 0.0000       | 60.1919  | 60.1919   |
| 2015    | 1,604.5349   | 77.4669     | 0.0000       | 0.0000       | 77.4669  | 77.4669   |
| 2016    | 1,896.2685   | 95.5909     | 0.0000       | 0.0000       | 95.5909  | 95.5909   |
| 2017    | 2,188.0021   | 116.8612    | 0.0000       | 0.0000       | 116.8612 | 116.8612  |
| 2018    | 2,479.7357   | 137.1790    | 0.0000       | 0.0000       | 137.1790 | 137.1790  |
| 2019    | 2,771.4693   | 163.7107    | 0.0000       | 0.0000       | 163.7107 | 163.7107  |
|         |              |             |              |              |          |           |
| NOMINAL | 14,586.6805  | 749.2419    | 0.0000       | 0.0000       | 749.2419 | 749.2419  |
|         |              |             |              |              |          |           |
| NPV     |              | 464.7279    | 0.0000       | 0.0000       | 464.7279 | 464.7279  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)      | (7)              |
|---------|--------------|-------------|---------------------|--------------|----------|------------------|
|         | REDUCTION    |             | INCREASE            |              | NET      |                  |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED  | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM  | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL     | FUEL             |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS  | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)  | \$(000)          |
|         | "            |             |                     |              |          |                  |
| 2010    | 19.4797      | 0.7262      | 0.0000              | 0.0000       | 0.7262   | 0.7262           |
| 2011    | 58.4391      | 2.2926      | 0.0000              | 0.0000       | 2.2926   | 2.2926           |
| 2012    | 97.3985      | 4.1024      | 0.0000              | 0.0000       | 4.1024   | 4.1024           |
| 2013    | 136.3580     | 5.9984      | 0.0000              | 0.0000       | 5.9984   | 5.9984           |
| 2014    | 175.3174     | 8.0383      | 0.0000              | 0.0000       | 8.0383   | 8.0383           |
| 2015    | 214.2768     | 10.3453     | 0.0000              | 0.0000       | 10.3453  | 10.3453          |
| 2016    | 253.2362     | 12.7656     | 0.0000              | 0.0000       | 12.7656  | 12.7656          |
| 2017    | 292.1956     | 15.6062     | 0.0000              | 0.0000       | 15.6062  | 15.6062          |
| 2018    | 331.1550     | 18.3195     | 0.0000              | 0.0000       | 18.3195  | 18.3195          |
| 2019    | 370.1145     | 21.8627     | 0.0000              | 0.0000       | 21.8627  | 21.8627          |
| NOMINAL | 1,947.9709   | 100.0571    | 0.0000              | 0.0000       | 100.0571 | 100.0571         |
| NPV     |              | 62.0618     | 0.0000              | 0.0000       | 62.0618  | 62.0618          |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET : DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Multi Family Survey Walk Through

| (1)     | (2)                 | (3)         | (4)          | (5)          | (6)      | (7)       |
|---------|---------------------|-------------|--------------|--------------|----------|-----------|
|         | REDUCTION           |             | INCREASE     |              | NET      |           |
|         | IN KWH              | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION          | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM   |
|         | <b>NET NEW CUST</b> | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL      |
|         | KWH                 | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)               | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)   |
|         |                     |             | <u></u>      |              |          |           |
| 2010    | 89.8023             | 3.3478      | 0.0000       | 0.0000       | 3.3478   | 3.3478    |
| 2011    | 269.4069            | 10.5688     | 0.0000       | 0.0000       | 10.5688  | 10.5688   |
| 2012    | 449.0114            | 18.9124     | 0.0000       | 0.0000       | 18.9124  | 18.9124   |
| 2013    | 628.6160            | 27.6528     | 0.0000       | 0.0000       | 27.6528  | 27.6528   |
| 2014    | 808.2206            | 37.0569     | 0.0000       | 0.0000       | 37.0569  | 37.0569   |
| 2015    | 987.8252            | 47.6922     | 0.0000       | 0.0000       | 47.6922  | 47.6922   |
| 2016    | 1,167.4298          | 58.8501     | 0.0000       | 0.0000       | 58.8501  | 58.8501   |
| 2017    | 1,347.0343          | 71.9451     | 0.0000       | 0.0000       | 71.9451  | 71.9451   |
| 2018    | 1,526.6389          | 84.4537     | 0.0000       | 0.0000       | 84.4537  | 84.4537   |
| 2019    | 1,706.2435          | 100.7878    | 0.0000       | 0.0000       | 100.7878 | 100.7878  |
| NOMINAL | 8,980.2289          | 461.2677    | 0.0000       | 0.0000       | 461.2677 | 461.2677  |
| NPV     |                     | 286.1078    | 0.0000       | 0.0000       | 286.1078 | 286.1078  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET : DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)              |
|---------|--------------|-------------|--------------|--------------|----------|------------------|
|         | REDUCTION    |             | INCREASE     |              | NET      |                  |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL             |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)          |
|         |              |             |              |              |          | _                |
| 2010    | 40.4787      | 1.5090      | 0.0000       | 0.0000       | 1.5090   | 1.5090           |
| 2011    | 121.4360     | 4.7639      | 0.0000       | 0.0000       | 4.7639   | 4.7639           |
| 2012    | 202.3933     | 8.5248      | 0.0000       | 0.0000       | 8.5248   | 8.5248           |
| 2013    | 283.3507     | 12.4646     | 0.0000       | 0.0000       | 12.4646  | 12.4646          |
| 2014    | 364.3080     | 16.7035     | 0.0000       | 0.0000       | 16.7035  | 16.7035          |
| 2015    | 445.2653     | 21.4974     | 0.0000       | 0.0000       | 21.4974  | 21.4974          |
| 2016    | 526.2227     | 26.5269     | 0.0000       | 0.0000       | 26.5269  | 26.5269          |
| 2017    | 607.1800     | 32.4295     | 0.0000       | 0.0000       | 32.4295  | 32.4295          |
| 2018    | 688.1374     | 38.0678     | 0.0000       | 0.0000       | 38.0678  | 38.0678          |
| 2019    | 769.0947     | 45.4304     | 0.0000       | 0.0000       | 45.4304  | 45.4304          |
| NOMINAL | 4,047.8668   | 207.9179    | 0.0000       | 0.0000       | 207.9179 | 207.9179         |
| NPV     |              | 128.9640    | 0.0000       | 0.0000       | 128.9640 | 128.9640         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Multi Family Survey On Line

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)       |
|---------|--------------|-------------|--------------|--------------|----------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET      |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)   |
|         |              |             |              |              |          |           |
| 2010    | 29.4485      | 1.0978      | 0.0000       | 0.0000       | 1.0978   | 1.0978    |
| 2011    | 88.3455      | 3.4658      | 0.0000       | 0.0000       | 3.4658   | 3.4658    |
| 2012    | 147.2425     | 6.2019      | 0.0000       | 0.0000       | 6.2019   | 6.2019    |
| 2013    | 206.1394     | 9.0681      | 0.0000       | 0.0000       | 9.0681   | 9.0681    |
| 2014    | 265.0364     | 12.1519     | 0.0000       | 0.0000       | 12.1519  | 12.1519   |
| 2015    | 323.9334     | 15.6395     | 0.0000       | 0.0000       | 15.6395  | 15.6395   |
| 2016    | 382.8304     | 19.2985     | 0.0000       | 0.0000       | 19.2985  | 19.2985   |
| 2017    | 441.7274     | 23.5927     | 0.0000       | 0.0000       | 23.5927  | 23.5927   |
| 2018    | 500.6243     | 27.6945     | 0.0000       | 0.0000       | 27.6945  | 27.6945   |
| 2019    | 559.5213     | 33.0509     | 0.0000       | 0.0000       | 33.0509  | 33.0509   |
| NOMINAL | 2,944.8491   | 151.2616    | 0.0000       | 0.0000       | 151.2616 | 151.2616  |
| NPV     |              | 93.8221     | 0.0000       | 0.0000       | 93.8221  | 93.8221   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

#### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Lighting Program (CFL)

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)              |
|---------|--------------|-------------|--------------|--------------|----------|------------------|
|         | REDUCTION    |             | INCREASE     |              | NET      |                  |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL             |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)          |
|         |              |             | <u></u>      |              |          |                  |
| 2010    | 87.3873      | 3.2578      | 0.0000       | 0.0000       | 3.2578   | 3.2578           |
| 2011    | 262.1619     | 10.2846     | 0.0000       | 0.0000       | 10.2846  | 10.2846          |
| 2012    | 436.9365     | 18.4038     | 0.0000       | 0.0000       | 18.4038  | 18.4038          |
| 2013    | 611.7111     | 26.9092     | 0.0000       | 0.0000       | 26.9092  | 26.9092          |
| 2014    | 786.4857     | 36.0604     | 0.0000       | 0.0000       | 36.0604  | 36.0604          |
| 2015    | 961.2604     | 46.4096     | 0.0000       | 0.0000       | 46.4096  | 46.4096          |
| 2016    | 1,136.0350   | 57.2675     | 0.0000       | 0.0000       | 57.2675  | 57.2675          |
| 2017    | 1,310.8096   | 70.0103     | 0.0000       | 0.0000       | 70.0103  | 70.0103          |
| 2018    | 1,485.5842   | 82.1825     | 0.0000       | 0.0000       | 82.1825  | 82.1825          |
| 2019    | 1,660.3588   | 98.0774     | 0.0000       | 0.0000       | 98.0774  | 98.0774          |
| NOMINAL | 8,738.7305   | 448.8631    | 0.0000       | 0.0000       | 448.8631 | 448.8631         |
| NPV     |              | 278.4137    | 0.0000       | 0.0000       | 278.4137 | 278.4137         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Insulation

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)      | (7)              |
|---------|--------------|-------------|--------------|--------------|----------|------------------|
|         | REDUCTION    |             | INCREASE     |              | NET      |                  |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED  | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM  | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL     | FUEL             |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS  | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)  | \$(000)          |
|         |              | . =         |              |              |          |                  |
| 2010    | 53.7331      | 2.0032      | 0.0000       | 0.0000       | 2.0032   | 2.0032           |
| 2011    | 161.1993     | 6.3238      | 0.0000       | 0.0000       | 6.3238   | 6.3238           |
| 2012    | 268.6655     | 11.3162     | 0.0000       | 0.0000       | 11.3162  | 11.3162          |
| 2013    | 376.1316     | 16.5460     | 0.0000       | 0.0000       | 16.5460  | 16.5460          |
| 2014    | 483.5978     | 22.1730     | 0.0000       | 0.0000       | 22.1730  | 22.1730          |
| 2015    | 591.0640     | 28.5366     | 0.0000       | 0.0000       | 28.5366  | 28.5366          |
| 2016    | 698.5302     | 35.2129     | 0.0000       | 0.0000       | 35.2129  | 35.2129          |
| 2017    | 805.9964     | 43.0483     | 0.0000       | 0.0000       | 43.0483  | 43.0483          |
| 2018    | 913.4625     | 50.5327     | 0.0000       | 0.0000       | 50.5327  | 50.5327          |
| 2019    | 1,020.9287   | 60.3063     | 0.0000       | 0.0000       | 60.3063  | 60.3063          |
|         |              |             |              |              |          |                  |
| NOMINAL | 5,373.3091   | 275.9989    | 0.0000       | 0.0000       | 275.9989 | 275.9989         |
|         |              |             |              |              |          |                  |
| NPV     |              | 171.1922    | 0.0000       | 0.0000       | 171.1922 | 171.1922         |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)      | (7)       |
|---------|--------------|-------------|---------------------|--------------|----------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET      |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM  | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL     | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)  | \$(000)   |
|         |              |             |                     |              |          |           |
| 2010    | 42.6150      | 1.5887      | 0.0000              | 0.0000       | 1.5887   | 1.5887    |
| 2011    | 127.8449     | 5.0154      | 0.0000              | 0.0000       | 5.0154   | 5.0154    |
| 2012    | 213.0748     | 8.9747      | 0.0000              | 0.0000       | 8.9747   | 8.9747    |
| 2013    | 298.3047     | 13.1224     | 0.0000              | 0.0000       | 13.1224  | 13.1224   |
| 2014    | 383.5346     | 17.5851     | 0.0000              | 0.0000       | 17.5851  | 17.5851   |
| 2015    | 468.7645     | 22.6319     | 0.0000              | 0.0000       | 22.6319  | 22.6319   |
| 2016    | 553.9944     | 27.9269     | 0.0000              | 0.0000       | 27.9269  | 27.9269   |
| 2017    | 639.2243     | 34.1410     | 0.0000              | 0.0000       | 34.1410  | 34.1410   |
| 2018    | 724.4542     | 40.0768     | 0.0000              | 0.0000       | 40.0768  | 40.0768   |
| 2019    | 809.6841     | 47.8280     | 0.0000              | 0.0000       | 47.8280  | 47.8280   |
| NOMINAL | 4,261.4954   | 218.8909    | 0.0000              | 0.0000       | 218.8909 | 218.8909  |
| NPV     |              | 135.7701    | 0.0000              | 0.0000       | 135.7701 | 135.7701  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Gold Ring

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)       |
|---------|--------------|-------------|--------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         |              |             |              |              |         |           |
| 2010    | 4.1004       | 0.1529      | 0.0000       | 0.0000       | 0.1529  | 0.1529    |
| 2011    | 12.3012      | 0.4826      | 0.0000       | 0.0000       | 0.4826  | 0.4826    |
| 2012    | 20.5021      | 0.8635      | 0.0000       | 0.0000       | 0.8635  | 0.8635    |
| 2013    | 28.7029      | 1.2626      | 0.0000       | 0.0000       | 1.2626  | 1.2626    |
| 2014    | 36.9037      | 1.6920      | 0.0000       | 0.0000       | 1.6920  | 1.6920    |
| 2015    | 45.1046      | 2.1776      | 0.0000       | 0.0000       | 2.1776  | 2.1776    |
| 2016    | 53.3054      | 2.6871      | 0.0000       | 0.0000       | 2.6871  | 2.6871    |
| 2017    | 61.5062      | 3.2850      | 0.0000       | 0.0000       | 3.2850  | 3.2850    |
| 2018    | 69.7071      | 3.8562      | 0.0000       | 0.0000       | 3.8562  | 3.8562    |
| 2019    | 77.9079      | 4.6020      | 0.0000       | 0.0000       | 4.6020  | 4.6020    |
| NOMINAL | 410,0416     | 21.0617     | 0.0000       | 0.0000       | 21.0617 | 21.0617   |
| NPV     |              | 13.0638     | 0.0000       | 0.0000       | 13.0638 | 13.0638   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Home Energy Fix Up

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)   |
|---------|--------------|-------------|--------------|--------------|---------|---|
|         | REDUCTION    |             | INCREASE     |              | NET     |   |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE   |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL  |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         |              |             |              |              |         | <del>, , , , , , , , , , , , , , , , , , , </del> |
| 2010    | 6.7638       | 0.2522      | 0.0000       | 0.0000       | 0.2522  | 0.2522  |
| 2011    | 20.2914      | 0.7960      | 0.0000       | 0.0000       | 0.7960  | 0.7960  |
| 2012    | 33.8189      | 1.4245      | 0.0000       | 0.0000       | 1.4245  | 1.4245  |
| 2013    | 47.3465      | 2.0828      | 0.0000       | 0.0000       | 2.0828  | 2.0828  |
| 2014    | 60.8741      | 2.7911      | 0.0000       | 0.0000       | 2.7911  | 2.7911  |
| 2015    | 74.4017      | 3.5921      | 0.0000       | 0.0000       | 3.5921  | 3.5921  |
| 2016    | 87.9292      | 4.4325      | 0.0000       | 0.0000       | 4.4325  | 4.4325  |
| 2017    | 101.4568     | 5.4188      | 0.0000       | 0.0000       | 5.4188  | 5.4188  |
| 2018    | 114.9844     | 6.3609      | 0.0000       | 0.0000       | 6.3609  | 6.3609  |
| 2019    | 128.5120     | 7.5912      | 0.0000       | 0.0000       | 7.5912  | 7.5912  |
|         |              |             |              |              |         |   |
| NOMINAL | 676.3788     | 34.7421     | 0.0000       | 0.0000       | 34.7421 | 34.7421   |
|         |              |             |              |              |         |   |
| NPV     |              | 21.5493     | 0.0000       | 0.0000       | 21.5493 | 21.5493   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Duct Repair

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)      | (7)       |
|---------|--------------|-------------|---------------------|--------------|----------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET      |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED  | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM  | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL     | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS  | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000)  | \$(000)   |
|         |              |             |                     |              | ·        |           |
| 2010    | 21.4932      | 0.8013      | 0.0000              | 0.0000       | 0.8013   | 0.8013    |
| 2011    | 64.4797      | 2.5295      | 0.0000              | 0.0000       | 2.5295   | 2.5295    |
| 2012    | 107.4662     | 4.5265      | 0.0000              | 0.0000       | 4.5265   | 4.5265    |
| 2013    | 150.4527     | 6.6184      | 0.0000              | 0.0000       | 6.6184   | 6.6184    |
| 2014    | 193.4391     | 8.8692      | 0.0000              | 0.0000       | 8.8692   | 8.8692    |
| 2015    | 236.4256     | 11.4146     | 0.0000              | 0.0000       | 11.4146  | 11.4146   |
| 2016    | 279.4121     | 14.0852     | 0.0000              | 0.0000       | 14.0852  | 14.0852   |
| 2017    | 322.3985     | 17.2193     | 0.0000              | 0.0000       | 17.2193  | 17.2193   |
| 2018    | 365.3850     | 20.2131     | 0.0000              | 0.0000       | 20.2131  | 20.2131   |
| 2019    | 408.3715     | 24.1225     | 0.0000              | 0.0000       | 24.1225  | 24.1225   |
| NOMINAL | 2,149.3236   | 110.3996    | 0.0000              | 0.0000       | 110.3996 | 110.3996  |
| NPV     |              | 68.4769     | 0.0000              | 0.0000       | 68.4769  | 68.4769   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)       |
|---------|--------------|-------------|--------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         |              |             |              | <u> </u>     |         |           |
| 2010    | 4.6477       | 0.1733      | 0.0000       | 0.0000       | 0.1733  | 0.1733    |
| 2011    | 13.9432      | 0.5470      | 0.0000       | 0.0000       | 0.5470  | 0.5470    |
| 2012    | 23.2387      | 0.9788      | 0.0000       | 0.0000       | 0.9788  | 0.9788    |
| 2013    | 32.5342      | 1.4312      | 0.0000       | 0.0000       | 1.4312  | 1.4312    |
| 2014    | 41.8297      | 1.9179      | 0.0000       | 0.0000       | 1.9179  | 1.9179    |
| 2015    | 51.1252      | 2.4683      | 0.0000       | 0.0000       | 2.4683  | 2.4683    |
| 2016    | 60.4206      | 3.0458      | 0.0000       | 0.0000       | 3.0458  | 3.0458    |
| 2017    | 69.7161      | 3.7235      | 0.0000       | 0.0000       | 3.7235  | 3.7235    |
| 2018    | 79.0116      | 4.3709      | 0.0000       | 0.0000       | 4.3709  | 4.3709    |
| 2019    | 88.3071      | 5.2163      | 0.0000       | 0.0000       | 5.2163  | 5.2163    |
| NOMINAL | 464.7742     | 23.8730     | 0.0000       | 0.0000       | 23.8730 | 23.8730   |
| NPV     |              | 14.8076     | 0.0000       | 0.0000       | 14.8076 | 14.8076   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET : DSM PROGRAM FUEL SAVINGS PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)         | (2)          | (3)         | (4)          | (5)          | (6)     | (7)              |
|-------------|--------------|-------------|--------------|--------------|---------|------------------|
|             | REDUCTION    |             | INCREASE     |              | NET     |                  |
|             | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | <b>EFFECTIVE</b> |
|             | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM          |
|             | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL             |
|             | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS          |
| <u>YEAR</u> | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)          |
|             |              |             |              |              |         |                  |
| 2010        | 0.4422       | 0.0165      | 0.0000       | 0.0000       | 0.0165  | 0.0165           |
| 2011        | 1.3267       | 0.0520      | 0.0000       | 0.0000       | 0.0520  | 0.0520           |
| 2012        | 2.2112       | 0.0931      | 0.0000       | 0.0000       | 0.0931  | 0.0931           |
| 2013        | 3.0957       | 0.1362      | 0.0000       | 0.0000       | 0.1362  | 0.1362           |
| 2014        | 3.9802       | 0.1825      | 0.0000       | 0.0000       | 0.1825  | 0.1825           |
| 2015        | 4.8647       | 0.2349      | 0.0000       | 0.0000       | 0.2349  | 0.2349           |
| 2016        | 5.7492       | 0.2898      | 0.0000       | 0.0000       | 0.2898  | 0.2898           |
| 2017        | 6.6337       | 0.3543      | 0.0000       | 0.0000       | 0.3543  | 0.3543           |
| 2018        | 7.5182       | 0.4159      | 0.0000       | 0.0000       | 0.4159  | 0.4159           |
| 2019        | 8.4027       | 0.4963      | 0.0000       | 0.0000       | 0.4963  | 0.4963           |
|             |              |             |              |              |         |                  |
| NOMINAL     | 44.2248      | 2.2716      | 0.0000       | 0.0000       | 2.2716  | 2.2716           |
|             |              |             |              |              |         |                  |
| NPV         |              | 1.4090      | 0.0000       | 0.0000       | 1.4090  | 1.4090           |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET : DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Heat Pump SEER 18

| (1)          | (2)          | (3)         | (4)          | (5)          | (6)     | (7)              |
|--------------|--------------|-------------|--------------|--------------|---------|------------------|
|              | REDUCTION    |             | INCREASE     |              | NET     |                  |
|              | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | <b>EFFECTIVE</b> |
|              | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM          |
|              | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL             |
|              | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS          |
| <u>YE</u> AR | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)          |
|              |              |             |              |              |         |                  |
| 2010         | 2.1353       | 0.0796      | 0.0000       | 0.0000       | 0.0796  | 0.0796           |
| 2011         | 6.4058       | 0.2513      | 0.0000       | 0.0000       | 0.2513  | 0.2513           |
| 2012         | 10.6764      | 0.4497      | 0.0000       | 0.0000       | 0.4497  | 0.4497           |
| 2013         | 14.9469      | 0.6575      | 0.0000       | 0.0000       | 0.6575  | 0.6575           |
| 2014         | 19.2175      | 0.8811      | 0.0000       | 0.0000       | 0.8811  | 0.8811           |
| 2015         | 23.4880      | 1.1340      | 0.0000       | 0.0000       | 1.1340  | 1.1340           |
| 2016         | 27.7586      | 1.3993      | 0.0000       | 0.0000       | 1.3993  | 1.3993           |
| 2017         | 32.0291      | 1.7107      | 0.0000       | 0.0000       | 1.7107  | 1.7107           |
| 2018         | 36.2997      | 2.0081      | 0.0000       | 0.0000       | 2.0081  | 2.0081           |
| 2019         | 40.5702      | 2.3965      | 0.0000       | 0.0000       | 2.3965  | 2.3965           |
|              |              |             |              |              |         |                  |
| NOMINAL      | 213.5276     | 10.9678     | 0.0000       | 0.0000       | 10.9678 | 10.9678          |
|              |              |             |              |              |         |                  |
| NPV          |              | 6.8029      | 0.0000       | 0.0000       | 6.8029  | 6.8029           |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Heat Pump SEER 17

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)       |
|---------|--------------|-------------|--------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         | n. <u>-</u>  |             |              |              |         |           |
| 2010    | 2.4308       | 0.0906      | 0.0000       | 0.0000       | 0.0906  | 0.0906    |
| 2011    | 7.2924       | 0.2861      | 0.0000       | 0.0000       | 0.2861  | 0.2861    |
| 2012    | 12.1540      | 0.5119      | 0.0000       | 0.0000       | 0.5119  | 0.5119    |
| 2013    | 17.0156      | 0.7485      | 0.0000       | 0.0000       | 0.7485  | 0.7485    |
| 2014    | 21.8772      | 1.0031      | 0.0000       | 0.0000       | 1.0031  | 1.0031    |
| 2015    | 26.7388      | 1.2909      | 0.0000       | 0.0000       | 1.2909  | 1.2909    |
| 2016    | 31.6004      | 1.5930      | 0.0000       | 0.0000       | 1.5930  | 1.5930    |
| 2017    | 36.4620      | 1.9474      | 0.0000       | 0.0000       | 1.9474  | 1.9474    |
| 2018    | 41.3236      | 2.2860      | 0.0000       | 0.0000       | 2.2860  | 2.2860    |
| 2019    | 46.1852      | 2.7282      | 0.0000       | 0.0000       | 2.7282  | 2.7282    |
| NOMINAL | 243.0801     | 12.4858     | 0.0000       | 0.0000       | 12.4858 | 12.4858   |
| NPV     |              | 7.7445      | 0.0000       | 0.0000       | 7.7445  | 7.7445    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Heat Pump SEER 16

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)     | (7)       |
|---------|--------------|-------------|--------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE     |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)   |
|         |              |             |              |              |         |           |
| 2010    | 3.3944       | 0.1265      | 0.0000       | 0.0000       | 0.1265  | 0.1265    |
| 2011    | 10.1831      | 0.3995      | 0.0000       | 0.0000       | 0.3995  | 0.3995    |
| 2012    | 16.9719      | 0.7149      | 0.0000       | 0.0000       | 0.7149  | 0.7149    |
| 2013    | 23.7607      | 1.0452      | 0.0000       | 0.0000       | 1.0452  | 1.0452    |
| 2014    | 30.5494      | 1.4007      | 0.0000       | 0.0000       | 1.4007  | 1.4007    |
| 2015    | 37.3382      | 1.8027      | 0.0000       | 0.0000       | 1.8027  | 1.8027    |
| 2016    | 44.1270      | 2.2244      | 0.0000       | 0.0000       | 2.2244  | 2.2244    |
| 2017    | 50.9157      | 2.7194      | 0.0000       | 0.0000       | 2.7194  | 2.7194    |
| 2018    | 57.7045      | 3.1922      | 0.0000       | 0.0000       | 3.1922  | 3.1922    |
| 2019    | 64.4932      | 3.8096      | 0.0000       | 0.0000       | 3.8096  | 3.8096    |
| NOMINAL | 339,4381     | 17.4352     | 0.0000       | 0.0000       | 17.4352 | 17.4352   |
| NPV     |              | 10.8144     | 0.0000       | 0.0000       | 10.8144 | 10.8144   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

### \* WORKSHEET : DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Heat Pump SEER 15

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)     | (7)              |
|---------|--------------|-------------|---------------------|--------------|---------|------------------|
|         | REDUCTION    |             | INCREASE            |              | NET     |                  |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL    | FUEL             |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000) | \$(000)          |
|         |              |             |                     |              |         |                  |
| 2010    | 1.5234       | 0.0568      | 0.0000              | 0.0000       | 0.0568  | 0.0568           |
| 2011    | 4.5702       | 0.1793      | 0.0000              | 0.0000       | 0.1793  | 0.1793           |
| 2012    | 7.6171       | 0.3208      | 0.0000              | 0.0000       | 0.3208  | 0.3208           |
| 2013    | 10.6639      | 0.4691      | 0.0000              | 0.0000       | 0.4691  | 0.4691           |
| 2014    | 13.7107      | 0.6286      | 0.0000              | 0.0000       | 0.6286  | 0.6286           |
| 2015    | 16.7575      | 0.8091      | 0.0000              | 0.0000       | 0.8091  | 0.8091           |
| 2016    | 19.8044      | 0.9983      | 0.0000              | 0.0000       | 0.9983  | 0.9983           |
| 2017    | 22.8512      | 1.2205      | 0.0000              | 0.0000       | 1.2205  | 1.2205           |
| 2018    | 25.8980      | 1.4327      | 0.0000              | 0.0000       | 1.4327  | 1.4327           |
| 2019    | 28.9448      | 1.7098      | 0.0000              | 0.0000       | 1.7098  | 1.7098           |
| NOMINAL | 152.3413     | 7.8250      | 0.0000              | 0.0000       | 7.8250  | 7.8250           |
| NPV     |              | 4.8536      | 0.0000              | 0.0000       | 4.8536  | 4.8536           |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

#### \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Heat Pump SEER 14

| (1)     | (2)          | (3)         | (4)                 | (5)          | (6)     | (7)       |
|---------|--------------|-------------|---------------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000) | \$(000)   |
|         |              |             |                     |              |         | _         |
| 2010    | 0.2164       | 0.0081      | 0.0000              | 0.0000       | 0.0081  | 0.0081    |
| 2011    | 0.6493       | 0.0255      | 0.0000              | 0.0000       | 0.0255  | 0.0255    |
| 2012    | 1.0822       | 0.0456      | 0.0000              | 0.0000       | 0.0456  | 0.0456    |
| 2013    | 1.5151       | 0.0666      | 0.0000              | 0.0000       | 0.0666  | 0.0666    |
| 2014    | 1.9480       | 0.0893      | 0.0000              | 0.0000       | 0.0893  | 0.0893    |
| 2015    | 2.3809       | 0.1149      | 0.0000              | 0.0000       | 0.1149  | 0.1149    |
| 2016    | 2.8137       | 0.1418      | 0.0000              | 0.0000       | 0.1418  | 0.1418    |
| 2017    | 3.2466       | 0.1734      | 0.0000              | 0.0000       | 0.1734  | 0.1734    |
| 2018    | 3.6795       | 0.2035      | 0.0000              | 0.0000       | 0.2035  | 0.2035    |
| 2019    | 4.1124       | 0.2429      | 0.0000              | 0.0000       | 0.2429  | 0.2429    |
| NOMINAL | 21.6441      | 1.1117      | 0.0000              | 0.0000       | 1.1117  | 1.1117    |
| NPV     |              | 0.6896      | 0.0000              | 0.0000       | 0.6896  | 0.6896    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Indoor Lighting

| (1)     | (2)          | (3)         | (4)          | (5)          | (6)        | (7)        |
|---------|--------------|-------------|--------------|--------------|------------|------------|
|         | REDUCTION    |             | INCREASE     |              | NET        |            |
| •       | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED    | EFFECTIVE  |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM    | PROGRAM    |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL       | FUEL       |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS    | SAVINGS    |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)    | \$(000)    |
|         |              |             |              |              |            |            |
| 2010    | 1,514.5182   | 56.4612     | 0.0000       | 0.0000       | 56.4612    | 56.4612    |
| 2011    | 4,543.5546   | 178.2436    | 0.0000       | 0.0000       | 178.2436   | 178.2436   |
| 2012    | 7,572.5911   | 318.9575    | 0.0000       | 0.0000       | 318.9575   | 318.9575   |
| 2013    | 10,601.6275  | 466.3656    | 0.0000       | 0.0000       | 466.3656   | 466.3656   |
| 2014    | 13,630.6639  | 624.9659    | 0.0000       | 0.0000       | 624.9659   | 624.9659   |
| 2015    | 16,659.7003  | 804.3303    | 0.0000       | 0.0000       | 804.3303   | 804.3303   |
| 2016    | 19,688.7367  | 992.5092    | 0.0000       | 0.0000       | 992.5092   | 992.5092   |
| 2017    | 22,717.7732  | 1,213.3563  | 0.0000       | 0.0000       | 1,213.3563 | 1,213.3563 |
| 2018    | 25,746.8096  | 1,424.3135  | 0.0000       | 0.0000       | 1,424.3135 | 1,424.3135 |
| 2019    | 28,775.8460  | 1,699.7892  | 0.0000       | 0.0000       | 1,699.7892 | 1,699.7892 |
| NOMINAL | 151,451.8210 | 7,779.2925  | 0.0000       | 0.0000       | 7,779.2925 | 7,779.2925 |
| NPV     |              | 4,825.2157  | 0.0000       | 0.0000       | 4,825.2157 | 4,825.2157 |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| (1)     | (2)          | (3)         | (4)                 | (4) (5) (6)  |         | (7)       |
|---------|--------------|-------------|---------------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE            |              | NET     |           |
|         | IN KWH       | AVOIDED     | IN KWH              | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION          | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | <b>NET NEW CUST</b> | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH                 | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)               | \$(000)      | \$(000) | \$(000)   |
|         |              |             |                     |              |         |           |
| 2010    | 0.2714       | 0.0101      | 0.0000              | 0.0000       | 0.0101  | 0.0101    |
| 2011    | 0.8141       | 0.0319      | 0.0000              | 0.0000       | 0.0319  | 0.0319    |
| 2012    | 1.3569       | 0.0572      | 0.0000              | 0.0000       | 0.0572  | 0.0572    |
| 2013    | 1.8996       | 0.0836      | 0.0000              | 0.0000       | 0.0836  | 0.0836    |
| 2014    | 2.4424       | 0.1120      | 0.0000              | 0.0000       | 0.1120  | 0.1120    |
| 2015    | 2.9851       | 0.1441      | 0.0000              | 0.0000       | 0.1441  | 0.1441    |
| 2016    | 3.5279       | 0.1778      | 0.0000              | 0.0000       | 0.1778  | 0.1778    |
| 2017    | 4.0706       | 0.2174      | 0.0000              | 0.0000       | 0.2174  | 0.2174    |
| 2018    | 4.6134       | 0.2552      | 0.0000              | 0.0000       | 0.2552  | 0.2552    |
| 2019    | 5.1561       | 0.3046      | 0.0000              | 0.0000       | 0.3046  | 0.3046    |
| NOMINAL | 27.1376      | 1.3939      | 0.0000              | 0.0000       | 1.3939  | 1.3939    |
| NPV     |              | 0.8646      | 0.0000              | 0.0000       | 0.8646  | 0.8646    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Energy Audit

| (1)     | (2)                 | (3)         | (4)          | (5)          | (6)       | (7)       |
|---------|---------------------|-------------|--------------|--------------|-----------|-----------|
|         | REDUCTION           |             | INCREASE     |              | NET       |           |
|         | IN KWH              | AVOIDED     | IN KWH       | INCREASED    | AVOIDED   | EFFECTIVE |
|         | GENERATION          | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM   | PROGRAM   |
|         | <b>NET NEW CUST</b> | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL      | FUEL      |
|         | KWH                 | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS   | SAVINGS   |
| YEAR    | (000)               | \$(000)     | (000)        | \$(000)      | \$(000)   | \$(000)   |
| •       |                     |             |              |              | · · · · · |           |
| 2010    | 109.4968            | 4.0820      | 0.0000       | 0.0000       | 4.0820    | 4.0820    |
| 2011    | 328.4903            | 12.8867     | 0.0000       | 0.0000       | 12.8867   | 12.8867   |
| 2012    | 547.4839            | 23.0600     | 0.0000       | 0.0000       | 23.0600   | 23.0600   |
| 2013    | 766.4774            | 33.7173     | 0.0000       | 0.0000       | 33.7173   | 33.7173   |
| 2014    | 985.4710            | 45.1838     | 0.0000       | 0.0000       | 45.1838   | 45.1838   |
| 2015    | 1,204.4645          | 58.1515     | 0.0000       | 0.0000       | 58.1515   | 58.1515   |
| 2016    | 1,423.4581          | 71.7565     | 0.0000       | 0.0000       | 71.7565   | 71.7565   |
| 2017    | 1,642.4516          | 87.7233     | 0.0000       | 0.0000       | 87.7233   | 87.7233   |
| 2018    | 1,861.4452          | 102.9751    | 0.0000       | 0.0000       | 102.9751  | 102.9751  |
| 2019    | 2,080.4387          | 122.8915    | 0.0000       | 0.0000       | 122.8915  | 122.8915  |
| NOMINAL | 10,949.6774         | 562.4280    | 0.0000       | 0.0000       | 562.4280  | 562.4280  |
| NPV     |                     | 348.8539    | 0.0000       | 0.0000       | 348.8539  | 348.8539  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Energy Efficiency Duct

| (1)     | (2)          | (3)         | 3) (4) (5) (6) |              | (6)     | (7)       |
|---------|--------------|-------------|----------------|--------------|---------|-----------|
|         | REDUCTION    |             | INCREASE       | INCREASE NET |         |           |
|         | IN KWH       | AVOIDED     | IN KWH         | INCREASED    | AVOIDED | EFFECTIVE |
|         | GENERATION   | MARGINAL    | GENERATION     | MARGINAL     | PROGRAM | PROGRAM   |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST   | FUEL COST -  | FUEL    | FUEL      |
|         | KWH          | REDUCED KWH | KWH            | INCREASE KWH | SAVINGS | SAVINGS   |
| YEAR    | (000)        | \$(000)     | (000)          | \$(000)      | \$(000) | \$(000)   |
|         |              |             |                |              |         |           |
| 2010    | 1.9563       | 0.0729      | 0.0000         | 0.0000       | 0.0729  | 0.0729    |
| 2011    | 5.8689       | 0.2302      | 0.0000         | 0.0000       | 0.2302  | 0.2302    |
| 2012    | 9.7815       | 0.4120      | 0.0000         | 0.0000       | 0.4120  | 0.4120    |
| 2013    | 13.6941      | 0.6024      | 0.0000         | 0.0000       | 0.6024  | 0.6024    |
| 2014    | 17.6067      | 0.8073      | 0.0000         | 0.0000       | 0.8073  | 0.8073    |
| 2015    | 21.5193      | 1.0389      | 0.0000         | 0.0000       | 1.0389  | 1.0389    |
| 2016    | 25.4318      | 1.2820      | 0.0000         | 0.0000       | 1.2820  | 1.2820    |
| 2017    | 29.3444      | 1.5673      | 0.0000         | 0.0000       | 1.5673  | 1.5673    |
| 2018    | 33.2570      | 1.8398      | 0.0000         | 0.0000       | 1.8398  | 1.8398    |
| 2019    | 37.1696      | 2.1956      | 0.0000         | 0.0000       | 2.1956  | 2.1956    |
| NOMINAL | 195.6296     | 10.0485     | 0.0000         | 0.0000       | 10.0485 | 10.0485   |
| NPV     |              | 6.2327      | 0.0000         | 0.0000       | 6.2327  | 6.2327    |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Energy Efficiency Cool Roof

| (1)     | (2)          | (3)         | (3) (4) (5)  |              | (6)        | (7)         |
|---------|--------------|-------------|--------------|--------------|------------|-------------|
|         | REDUCTION    |             | INCREASE     |              | NET        |             |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED    | EFFECTIVE   |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM    | PROGRAM     |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL       | FUEL        |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS    | SAVINGS     |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000)    | \$(000)     |
|         |              |             |              |              |            | <del></del> |
| 2010    | 473.8493     | 17.6651     | 0.0000       | 0.0000       | 17.6651    | 17.6651     |
| 2011    | 1,421.5480   | 55.7673     | 0.0000       | 0.0000       | 55.7673    | 55.7673     |
| 2012    | 2,369.2467   | 99.7927     | 0.0000       | 0.0000       | 99.7927    | 99.7927     |
| 2013    | 3,316.9453   | 145.9124    | 0.0000       | 0.0000       | 145.9124   | 145.9124    |
| 2014    | 4,264.6440   | 195.5339    | 0.0000       | 0.0000       | 195.5339   | 195.5339    |
| 2015    | 5,212.3427   | 251.6519    | 0.0000       | 0.0000       | 251.6519   | 251.6519    |
| 2016    | 6,160.0414   | 310.5277    | 0.0000       | 0.0000       | 310.5277   | 310.5277    |
| 2017    | 7,107.7400   | 379.6244    | 0.0000       | 0.0000       | 379.6244   | 379.6244    |
| 2018    | 8,055.4387   | 445.6269    | 0.0000       | 0.0000       | 445.6269   | 445.6269    |
| 2019    | 9,003.1374   | 531.8153    | 0.0000       | 0.0000       | 531.8153   | 531.8153    |
|         |              |             |              |              |            |             |
| NOMINAL | 47,384.9335  | 2,433.9176  | 0.0000       | 0.0000       | 2,433.9176 | 2,433.9176  |
|         |              |             |              |              |            |             |
| NPV     |              | 1,509.6717  | 0.0000       | 0.0000       | 1,509.6717 | 1,509.6717  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

# \* WORKSHEET: DSM PROGRAM FUEL SAVINGS PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| (1)     | (2)          | (3)         | (4) (5) (6)  |              | (6)     | (7)              |
|---------|--------------|-------------|--------------|--------------|---------|------------------|
|         | REDUCTION    |             | INCREASE     | NET          |         |                  |
|         | IN KWH       | AVOIDED     | IN KWH       | INCREASED    | AVOIDED | <b>EFFECTIVE</b> |
|         | GENERATION   | MARGINAL    | GENERATION   | MARGINAL     | PROGRAM | PROGRAM          |
|         | NET NEW CUST | FUEL COST - | NET NEW CUST | FUEL COST -  | FUEL    | FUEL             |
|         | KWH          | REDUCED KWH | KWH          | INCREASE KWH | SAVINGS | SAVINGS          |
| YEAR    | (000)        | \$(000)     | (000)        | \$(000)      | \$(000) | \$(000)          |
|         | ***          | ••••        |              |              |         |                  |
| 2010    | 2.0541       | 0.0766      | 0.0000       | 0.0000       | 0.0766  | 0.0766           |
| 2011    | 6.1623       | 0.2417      | 0.0000       | 0.0000       | 0.2417  | 0.2417           |
| 2012    | 10.2706      | 0.4326      | 0.0000       | 0.0000       | 0.4326  | 0.4326           |
| 2013    | 14.3788      | 0.6325      | 0.0000       | 0.0000       | 0.6325  | 0.6325           |
| 2014    | 18.4870      | 0.8476      | 0.0000       | 0.0000       | 0.8476  | 0.8476           |
| 2015    | 22.5952      | 1.0909      | 0.0000       | 0.0000       | 1.0909  | 1.0909           |
| 2016    | 26.7034      | 1.3461      | 0.0000       | 0.0000       | 1.3461  | 1.3461           |
| 2017    | 30.8117      | 1.6457      | 0.0000       | 0.0000       | 1.6457  | 1.6457           |
| 2018    | 34.9199      | 1.9318      | 0.0000       | 0.0000       | 1.9318  | 1.9318           |
| 2019    | 39.0281      | 2.3054      | 0.0000       | 0.0000       | 2.3054  | 2.3054           |
| NOMINAL | 205.4110     | 10.5509     | 0.0000       | 0.0000       | 10.5509 | 10.5509          |
| NPV     |              | 6.5443      | 0.0000       | 0.0000       | 6.5443  | 6.5443           |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

#### PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|--|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.03 KW/CUST<br>0.04 KW GEN/CUST<br>3.9 %<br>111.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>106.6 KWH/CUST/YR        | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M ESCALATION RATE | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 33.40 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 200.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 60.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 100.00 \$/CUST/YR 2.5 % | (1) NON-FUEL COST IN CUSTOMER BILL  | 8.536 CENTS/KWH 2.0 % 0.00 \$/KW/MO 2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|----------------|-----------|-----------|-------------|----------------------|----------------------|
|      |               |               | AVERAGE        |           |           |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                |           |           |             |                      |                      |
| 2010 | 90            | 90            | 3.36           | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 180           | 180           | 3.65           | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 270           | 270           | 3.93           | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 360           | 360           | 4.05           | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 450           | 450           | 4.14           | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 540           | 540           | 4.34           | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 630           | 630           | 4.48           | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 720           | 720           | 4.67           | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 810           | 810           | 4.86           | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 900           | 900           | 5.14           | 5.91      | 5.58      | 5.06        | 1                    | Ĭ                    |

# PROGRAM: Residential Energy Efficiency Wall Insulation

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |
|---|--|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER  (2) GENERATOR KW REDUCTION PER CUSTOMER  (3) KW LINE LOSS PERCENTAGE  (4) GENERATION KWH REDUCTION PER CUSTOMER  (5) KWH LINE LOSS PERCENTAGE  (6) GROUP LINE LOSS MULTIPLIER  (7) CUSTOMER KWH PROGRAM INCREASE AT METER  (8)* CUSTOMER KWH REDUCTION AT METER   | 0.02 KW /CUST<br>0.02 KW GEN/CUST<br>3.9 %<br>53.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>51.4 KWH/CUST/YR | (1) BASE YEAR  | . 2018<br>2030<br>. 120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>. 0 %<br>. 10.74022 \$/KW/YR<br>. 2.5 %<br>. 0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS | 2.5 % 0.00 \$/CUST/YR 2.5 % 664.67 \$/CUST 2.5 % 0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 2.5 %<br>8.00 %<br>0.00 %<br>300.00 \$/CUST<br>0.00 \$/CUST/YR<br>0.0 %  | * FIRE Program Version Number: 1.03  |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)  | (2)               | (3)           | (4)<br>UTILITY | (5)       | (6)              | (7)         | (8)           | (9)           |
|------|-------------------|---------------|----------------|-----------|------------------|-------------|---------------|---------------|
|      |                   |               | AVERAGE        |           |                  |             |               |               |
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM       | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR        | FACTOR        |
|      |                   |               |                |           |                  |             |               |               |
| 2010 | 7                 | 7             | 3.36           | 3.73      | 3.87             | 3.36        | 1             | 1             |
| 2011 | 14                | 14            | 3.65           | 3.92      | 3.99             | 3.65        | 1             | 1             |
| 2012 | 21                | 21            | 3.93           | 4.21      | 4.24             | 3.93        | 1             | 1             |
| 2013 | 28                | 28            | 4.05           | 4.40      | 4.47             | 4.05        | 1             | 1             |
| 2014 | 35                | 35            | 4.14           | 4.59      | 4.65             | 4.14        | 1             | 1             |
| 2015 | 42                | 42            | 4.34           | 4.83      | 4.96             | 4.34        | ĭ             | 1             |
| 2016 | 49                | 49            | 4.48           | 5.04      | 5.20             | 4.48        | 1             |               |
| 2017 | 56                | 56            | 4.67           | 5.34      | 5.60             | 4.67        | 1             | 1             |
| 2018 | 63                | 63            | 4.86           | 5.53      | 5.91             | 4.85        | 1             | 1             |
| 2019 | 70                | 70            | 5.14           | 5.91      | 5.58             | 5.06        | 1             | 1             |

#### PROGRAM: Residential Single Family Survey Walk Through

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |
|--|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>273.7 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>263.0 KWH/CUST/YR                                | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 219.63 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |  |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 8.00 % 0.00 \$/CUST/YR 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 % |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Single Family Survey Walk Through

| (9)           | (8)           | (7)         | (6)       | (5)       | (4)     | (3)           | (2)           | (1)  |
|---------------|---------------|-------------|-----------|-----------|---------|---------------|---------------|------|
|               |               |             |           |           | UTILITY |               |               |      |
|               |               |             |           |           | AVERAGE |               |               |      |
| PROGRAM       | PROGRAM       |             | INCREASED | AVOIDED   | SYSTEM  | ADJUSTED      | CUMULATIVE    |      |
| KWH           | KW            | REPLACEMENT | MARGINAL  | MARGINAL  | FUEL    | CUMULATIVE    | TOTAL         |      |
| EFFECTIVENESS | EFFECTIVENESS | FUEL COST   | FUEL COST | FUEL COST | COSTS   | PARTICIPATING | PARTICIPATING |      |
| FACTOR        | FACTOR        | (C/KWH)     | (C/KWH)   | (C/KWH)   | (C/KWH) | CUSTOMERS     | CUSTOMERS     | YEAR |
|               |               |             |           |           |         |               |               |      |
| 1             | Ĭ.            | 3.36        | 3.87      | 3.73      | 3.36    | 2013          | 2013          | 2010 |
| 1             | 1             | 3.65        | 3.99      | 3.92      | 3.65    | 4026          | 4026          | 2011 |
| Ť             | 1             | 3.93        | 4.24      | 4.21      | 3.93    | 6039          | 6039          | 2012 |
| 1             | 1             | 4.05        | 4.47      | 4.40      | 4.05    | 8052          | 8052          | 2013 |
| 1             | 1             | 4.14        | 4.65      | 4.59      | 4.14    | 10065         | 10065         | 2014 |
| 1             | 1             | 4.34        | 4.96      | 4.83      | 4.34    | 12078         | 12078         | 2015 |
| 1             | 1             | 4.48        | 5.20      | 5.04      | 4.48    | 14091         | 14091         | 2016 |
| 1             | 1             | 4.67        | 5.60      | 5.34      | 4.67    | 16104         | 16104         | 2017 |
| 1             | 1             | 4.85        | 5.91      | 5.53      | 4.86    | 18117         | 18117         | 2018 |
| 1             | 1             | 5.06        | 5.58      | 5.91      | 5.14    | 20130         | 20130         | 2019 |

#### PROGRAM: Residential Single Family Survey Video & DVDs

| (1) BASE YEAR(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT   | 2010  |
|--|---|
| (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR   |
| (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %  |
| V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |
|  | (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COSTS (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (19)* CAPACITY COST ESCALATION RATE (2) NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Single Family Survey Video & DVDs

| (1)  | (2)               | (3)               | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|-------------------|-------------------|---------------------------|-----------|-----------|-------------|----------------------|----------------------|
|      | <b>CUMULATIVE</b> | ADJUSTED          | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL             | <b>CUMULATIVE</b> | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING     | PARTICIPATING     | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS         | CUSTOMERS         | (C/KWH)                   | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |                   |                   |                           |           |           |             |                      |                      |
| 2010 | 1816              | 1816              | 3.36                      | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 3632              | 3632              | 3.65                      | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 5448              | 5448              | 3.93                      | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 7264              | 7264              | 4.05                      | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 9080              | 9080              | 4.14                      | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 10896             | 10896             | 4.34                      | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 12712             | 12712             | 4.48                      | 5.04      | 5.20      | 4.48        | 1                    | I                    |
| 2017 | 14528             | 14528             | 4.67                      | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 16344             | 16344             | 4.86                      | 5.53      | 5.91      | 4.85        | 1                    | T.                   |
| 2019 | 18160             | 18160             | 5.14                      | 5.91      | 5.58      | 5.06        | 1                    | I                    |

#### PROGRAM: Residential Single Family Survey On Line

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS                             |  |
|--|--|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>136.3 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>131.0 KWH/CUST/YR  | (1) BASE YEAR   | 0 \$/KW<br>0 \$/KW<br>0 %  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS                                | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST   | 57.34 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 %<br>0.00 \$/CUST/YR<br>2.5 % | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %                                 |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | ◆FIRE Program Version Number: 1.03  |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Single Family Survey On Line

| (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)                  | (9)                  |
|------|---------------|---------------|----------------|-----------|-----------|-------------|----------------------|----------------------|
|      | ~~~~          |               | AVERAGE        |           |           |             |                      |                      |
|      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM              |
|      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH                  |
|      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR               |
|      |               |               |                |           |           |             |                      |                      |
| 2010 | 1320          | 1320          | 3.36           | 3.73      | 3.87      | 3.36        | 1                    | 1                    |
| 2011 | 2640          | 2640          | 3.65           | 3.92      | 3.99      | 3.65        | 1                    | 1                    |
| 2012 | 3960          | 3960          | 3.93           | 4.21      | 4.24      | 3.93        | 1                    | 1                    |
| 2013 | 5280          | 5280          | 4.05           | 4.40      | 4.47      | 4.05        | 1                    | 1                    |
| 2014 | 6600          | 6600          | 4.14           | 4.59      | 4.65      | 4.14        | 1                    | 1                    |
| 2015 | 7920          | 7920          | 4.34           | 4.83      | 4.96      | 4.34        | 1                    | 1                    |
| 2016 | 9240          | 9240          | 4.48           | 5.04      | 5.20      | 4.48        | 1                    | 1                    |
| 2017 | 10560         | 10560         | 4.67           | 5.34      | 5.60      | 4.67        | 1                    | 1                    |
| 2018 | 11880         | 11880         | 4.86           | 5.53      | 5.91      | 4.85        | 1                    | 1                    |
| 2019 | 13200         | 13200         | 5.14           | 5.91      | 5.58      | 5.06        | 1                    | 1                    |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |
|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER   | (3) IN-SERVICE YEAR FOR AVOIDED T & D   |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM       10 YEARS         (2) GENERATOR ECONOMIC LIFE       20 YEARS         (3) T & D ECONOMIC LIFE       20 YEARS         (4) K FACTOR FOR GENERATION       0.22         (5) K FACTOR FOR T & D       0.00         (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)       1   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS       0 CENTS/KWH         (14) GENERATOR VARIABLE O & M COST ESCALATION RATE       2.5 %         (15) GENERATOR CAPACITY FACTOR       15 %         (16) AVOIDED GENERATING UNIT FUEL COST       3.363149 CENTS/KWH         (17) AVOIDED GEN UNIT FUEL ESCALATION RATE       2.5 %         (18)* AVOIDED PURCHASE CAPACITY COST PER KW       0 \$/KW/YR         (19)* CAPACITY COST ESCALATION RATE       2.5 % |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER       249.36       \$/CUST         (2)** UTILITY RECURRING COST PER CUSTOMER       0.00       \$/CUST/YR         (3) UTILITY COST ESCALATION RATE       2.5       %         (4) CUSTOMER EQUIPMENT COST       6,022.82       \$/CUST         (5) CUSTOMER EQUIPMENT ESCALATION RATE       2.5       %         (6) CUSTOMER O & M COST       0.00       \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   |
| (7) CUSTOMER O & M ESCALATION RATE       2.5       %         (8)* CUSTOMER TAX CREDIT PER INSTALLATION       1.500.00       \$/CUST         (9)* CUSTOMER TAX CREDIT ESCALATION RATE       0.0       %         (10)* INCREASED SUPPLY COSTS       0.00       \$/CUST/YR         (11)* SUPPLY COSTS ESCALATION RATE       2.5       %         (12)* UTILITY DISCOUNT RATE       8.00       %         (13)* UTILITY AFUDC RATE       0.00       %         (14)* UTILITY NON RECURRING REBATE/INCENTIVE       300.00       \$/CUST         (15)* UTILITY RECURRING REBATE/INCENTIVE       0.00       \$/CUST/YR | (4) DEMAND CHARGE ESCALATION RATE   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE 0.0 %  | * FIRE Program Version Number: 1.03   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 30  | 30   | 3.36                               | 3.73  | 3.87  | 3.36                                | Ĩ  | 1   |
| 2011 | 60  | 60   | 3.65                               | 3.92  | 3.99  | 3.65                                | Ŷ  | 1   |
| 2012 | 90  | 90   | 3.93                               | 4.21  | 4.24  | 3.93                                | Ĭ  | 1   |
| 2013 | 120   | 120  | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 150   | 150  | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 180   | 180  | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 210   | 210  | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 240   | 240  | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 270   | 270  | 4.86                               | 5.53  | 5.91  | 4.85                                | Ĩ  | 1   |
| 2019 | 300   | 300  | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 17

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES       | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |
|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER          | (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/KW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/KW         (6) BASE YEAR DISTRIBUTION COST       0 \$/KW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED O & M COST       10.74022 \$/KW/YR         (9) GENERATOR FIXED O & M COST       2.5 %         (10) TRANSMISSION FIXED O & M COST       0 \$/KW/YR         (11) DISTRIBUTION FIXED O & M COST       0 \$/KW/YR         (11) DISTRIBUTION FIXED O & M COST       0 \$/KW/YR         (12) T&D FIXED O&M ESCALATION RATE       0 % |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM       | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0 CENTS/KWH (14) GENERATOR VARIABLE O & M COST ESCALATION RATE 2.5 % (15) GENERATOR CAPACITY FACTOR 15 % (16) AVOIDED GENERATING UNIT FUEL COST 3.363149 CENTS/KWH (17) AVOIDED GEN UNIT FUEL ESCALATION RATE 2.5 % (18)* AVOIDED PURCHASE CAPACITY COST PER KW 0 \$/KW/YR (19)* CAPACITY COST ESCALATION RATE 2.5 %  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER    | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE 0.0 % | * FIRE Program Version Number: 1.03  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 17

| (1)  | (2)                  | (3)                  | (4)<br>UTILITY<br>AVERAGE | (5)              | (6)       | (7)         | (8)                  | (9)           |
|------|----------------------|----------------------|---------------------------|------------------|-----------|-------------|----------------------|---------------|
|      | CUMULATIVE           | ADJUSTED             | SYSTEM                    | AVOIDED          | INCREASED |             | PROGRAM              | PROGRAM       |
|      | TOTAL                | <b>CUMULATIVE</b>    | FUEL                      | MARGINAL         | MARGINAL  | REPLACEMENT | KW                   | KWH           |
|      | <b>PARTICIPATING</b> | <b>PARTICIPATING</b> | COSTS                     | <b>FUEL COST</b> | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS            | CUSTOMERS            | (C/KWH)                   | (C/KWH)          | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR        |
|      |                      |                      |                           |                  |           |             |                      |               |
| 2010 | 72                   | 72                   | 3.36                      | 3.73             | 3.87      | 3.36        | 1                    | 1             |
| 2011 | 144                  | 144                  | 3.65                      | 3.92             | 3.99      | 3.65        | 1                    | 1             |
| 2012 | 216                  | 216                  | 3.93                      | 4.21             | 4.24      | 3.93        | 1                    | 1             |
| 2013 | 288                  | 288                  | 4.05                      | 4.40             | 4.47      | 4.05        | 1                    | 1             |
| 2014 | 360                  | 360                  | 4.14                      | 4.59             | 4.65      | 4.14        | Ĭ                    | 1             |
| 2015 | 432                  | 432                  | 4.34                      | 4.83             | 4.96      | 4.34        | Ĭ                    | 1             |
| 2016 | 504                  | 504                  | 4.48                      | 5.04             | 5.20      | 4.48        | 1                    | 1             |
| 2017 | 576                  | 576                  | 4.67                      | 5.34             | 5.60      | 4.67        | 1                    | 1             |
| 2018 | 648                  | 648                  | 4.86                      | 5.53             | 5.91      | 4.85        | Ī                    | 1             |
| 2019 | 720                  | 720                  | 5.14                      | 5.91             | 5.58      | 5.06        | 1                    | 1             |

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 16

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER  (2) GENERATOR KW REDUCTION PER CUSTOMER  (3) KW LINE LOSS PERCENTAGE  (4) GENERATION KWH REDUCTION PER CUSTOMER  (5) KWH LINE LOSS PERCENTAGE  (6) GROUP LINE LOSS MULTIPLIER  (7) CUSTOMER KWH PROGRAM INCREASE AT METER  (8)* CUSTOMER KWH REDUCTION AT METER  II. ECONOMIC LIFE AND K FACTORS   | 0.45 KW/CUST<br>0.47 KW GEN/CUST<br>3.9 %<br>969.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>932.0 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M COST | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %                   |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 249.36 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 300.00 \$/CUST 0.00 \$/CUST        | (1) NON-FUEL COST IN CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 S/KW/MO<br>2.5 %                         |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 16

| (1)  | (2)                        | (3)                        | (4)<br>UTILITY<br>AVERAGE | (5)                                   | (6)                   | (7)                  | (8)                     | (9)                     |
|------|----------------------------|----------------------------|---------------------------|---------------------------------------|-----------------------|----------------------|-------------------------|-------------------------|
|      | CUMULATIVE<br>TOTAL        | ADJUSTED CUMULATIVE        | SYSTEM<br>FUEL            | AVOIDED<br>MARGINAL                   | INCREASED<br>MARGINAL | REPLACEMENT          | PROGRAM<br>KW           | PROGRAM<br>KWH          |
| YEAR | PARTICIPATING<br>CUSTOMERS | PARTICIPATING<br>CUSTOMERS | COSTS<br>(C/KWH)          | FUEL COST<br>(C/KWH)                  | FUEL COST<br>(C/KWH)  | FUEL COST<br>(C/KWH) | EFFECTIVENESS<br>FACTOR | EFFECTIVENESS<br>FACTOR |
|      |                            |                            |                           | , , , , , , , , , , , , , , , , , , , |                       |                      |                         |                         |
| 2010 | 110                        | 110                        | 3.36                      | 3.73                                  | 3.87                  | 3.36                 | 1                       | 1                       |
| 2011 | 220                        | 220                        | 3.65                      | 3.92                                  | 3.99                  | 3.65                 | 1                       | 1                       |
| 2012 | 330                        | 330                        | 3.93                      | 4.21                                  | 4.24                  | 3.93                 | 1                       | 1                       |
| 2013 | 440                        | 440                        | 4.05                      | 4.40                                  | 4.47                  | 4.05                 | I                       | 1                       |
| 2014 | 550                        | 550                        | 4.14                      | 4.59                                  | 4.65                  | 4.14                 | 1                       | 1                       |
| 2015 | 660                        | 660                        | 4.34                      | 4.83                                  | 4.96                  | 4.34                 | 1                       | 1                       |
| 2016 | 770                        | 770                        | 4.48                      | 5.04                                  | 5.20                  | 4.48                 | 1                       | 1                       |
| 2017 | 880                        | 880                        | 4.67                      | 5.34                                  | 5.60                  | 4.67                 | 1                       | 1                       |
| 2018 | 990                        | 990                        | 4.86                      | 5.53                                  | 5.91                  | 4.85                 | 1                       | 1                       |
| 2019 | 1100                       | 1100                       | 5.14                      | 5.91                                  | 5.58                  | 5.06                 | 1                       | 1                       |

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 15

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |
|---|--|--|---|
| (2) GENERATOR KW REDUCTION PER CUSTOMER 0.3 (3) KW LINE LOSS PERCENTAGE 3 (4) GENERATION KWH REDUCTION PER CUSTOMER 761 (5) KWH LINE LOSS PERCENTAGE 3 (6) GROUP LINE LOSS MULTIPLIER 1.000 (7) CUSTOMER KWH PROGRAM INCREASE AT METER 0  | 66 KW /CUST<br>77 KW GEN/CUST<br>99 %<br>99 %<br>100<br>100 KWH/CUST/YR<br>100 KWH/CUST/YR   | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O & M COST  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O & M COST | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
|   | O VEARS  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS   | 0 CENTS/KWH<br>2.5 %  |
| (2) GENERATOR ECONOMIC LIFE   | 0 YEARS<br>20 YEARS<br>20 YEARS<br>22 YEARS<br>1   | (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 15 %  |
| III. UTILITY AND CUSTOMER COSTS   |  |  |   |
| (2)** UTILITY RECURRING COST PER CUSTOMER   | 66 \$/CUST<br>00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |
| (4) CUSTOMER EQUIPMENT COST       2.629.3         (5) CUSTOMER EQUIPMENT ESCALATION RATE       2         (6) CUSTOMER O & M COST       0.0         (7) CUSTOMER O & M ESCALATION RATE       2         (8)* CUSTOMER TAX CREDIT PER INSTALLATION       1.500.0         (9)* CUSTOMER TAX CREDIT ESCALATION RATE       0         (10)* INCREASED SUPPLY COSTS       0.0         (11)* SUPPLY COSTS ESCALATION RATE       2         (12)* UTILITY DISCOUNT RATE       8         (13)* UTILITY AFUDC RATE       0         (14)* UTILITY NON RECURRING REBATE/INCENTIVE       200.0         (15)* UTILITY RECURRING REBATE/INCENTIVE       0.0 | 88 \$/CUST<br>.5 %<br>90 \$/CUST/YR<br>.5 %<br>90 \$/CUST<br>90 \$/CUST<br>90 \$/CUST/YR<br>90 \$/CUST/YR<br>90 \$/CUST<br>90 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL   | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | .0 %   | * FIRE Program Version Number: 1.03  |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 15

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 |   |  |                                    |   |   | 2.24                                |  |   |
| 2010 | 383   | 383  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 766   | 766  | 3.65                               | 3.92  | 3.99  | 3.65                                | 1  | 4   |
| 2012 | 1149  | 1149   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 1532  | 1532   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 1915  | 1915   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 2298  | 2298   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 2681  | 2681   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 3064  | 3064   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 3447  | 3447   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 3830  | 3830   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

# PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 14

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |
|---|--|
| (1) CUSTOMER KW REDUCTION AT THE METER 0.19 KW /CUS (2) GENERATOR KW REDUCTION PER CUSTOMER 0.20 KW GEN. (3) KW LINE LOSS PERCENTAGE 3.9 % (4) GENERATION KWH REDUCTION PER CUSTOMER 432.9 KWH/CU (5) KWH LINE LOSS PERCENTAGE 3.9 % (6) GROUP LINE LOSS MULTIPLIER 1.0000 (7) CUSTOMER KWH PROGRAM INCREASE AT METER 0.0 KWH/CU (8)* CUSTOMER KWH REDUCTION AT METER 416.0 KWH/CU  | CUST  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O & M COST  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O & M COST  (13) DISTRIBUTION FIXED O & M COST  (14) DISTRIBUTION FIXED O & M COST  (15) S/KW/YR  (16) TRANSMISSION FIXED O & M COST  (17) DISTRIBUTION FIXED O & M COST  (18) S/KW/YR  (19) T&D FIXED O & M COST  (19) T&D FIXED O & M COST |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM       10 YEARS         (2) GENERATOR ECONOMIC LIFE       20 YEARS         (3) T & D ECONOMIC LIFE       20 YEARS         (4) K FACTOR FOR GENERATION       0.22         (5) K FACTOR FOR T & D       0.00         (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)       1  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0 CENTS/KWH (14) GENERATOR VARIABLE O & M COST ESCALATION RATE 2.5 % (15) GENERATOR CAPACITY FACTOR 15 % (16) AVOIDED GENERATING UNIT FUEL COST 3.363149 CENTS/KWH (17) AVOIDED GEN UNIT FUEL ESCALATION RATE 2.5 % (18)* AVOIDED PURCHASE CAPACITY COST PER KW 0 S/KW/YR (19)* CAPACITY COST ESCALATION RATE 2.5 %   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O& M COST (7) CUSTOMER O& M COST (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE (10) % (10)* W (10)* W (10)* UTILITY REBATE/INCENTIVE SCAL RATE (10) % | (1) NON-FUEL COST IN CUSTOMER BILL   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 14

\* Avoided Generation Unit: 7
\* Program Generation Equivilency Factor:

7FA CT 1.00

(1) (2) (3) (4) (5) (6) (7) (8) (9) UTILITY AVERAGE CUMULATIVE PROGRAM ADJUSTED SYSTEM AVOIDED INCREASED PROGRAM TOTAL KW **KWH CUMULATIVE** FUEL MARGINAL MARGINAL REPLACEMENT **EFFECTIVENESS** PARTICIPATING PARTICIPATING **EFFECTIVENESS** COSTS FUEL COST FUEL COST FUEL COST YEAR CUSTOMERS **FACTOR** CUSTOMERS (C/KWH) (C/KWH) (C/KWH) (C/KWH) **FACTOR** 2010 90 90 3.36 3.73 3.87 3.36 2011 180 180 3.92 3.99 3.65 3.65 2012 270 270 3.93 3.93 4.21 4.24 2013 360 360 4.05 4.40 4.47 4.05 2014 450 450 4.14 4.59 4.65 4.14 2015 540 540 4.34 4.83 4.96 4.34 2016 630 630 5.04 4.48 4.48 5.20 2017 720 5.34 720 4.67 5.60 4.67 2018 810 810 4.86 5.53 5.91 4.85 2019 900 900 5.14 5.91 5.58 5.06

#### PROGRAM: Residential Multi Family Survey Walk Through

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS                             |   |
|---|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.00 KW /CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>208.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>200.0 KWH/CUST/YR   | (1) BASE YEAR   | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS                                | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR           |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 199,89 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Multi Family Survey Walk Through

| (1)  | (2)   | (3)  | (4)<br>UTILITY                                | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|---|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | AVERAGE<br>SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 863   | 863  | 3.36  | 3.73  | 3.87  | 3,36                                | 1  | 1   |
| 2011 | 1726  | 1726   | 3.65  | 3.92  | 3.99  | 3.65                                | 1  | 1   |
| 2012 | 2589  | 2589   | 3.93  | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 3452  | 3452   | 4.05  | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 4315  | 4315   | 4.14  | 4.59  | 4.65  | 4.14                                | £  | 1   |
| 2015 | 5178  | 5178   | 4.34  | 4.83  | 4.96  | 4.34                                | f.                                       | 1   |
| 2016 | 6041  | 6041   | 4.48  | 5.04  | 5.20  | 4.48                                | T .                                      | 1   |
| 2017 | 6904  | 6904   | 4.67  | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 7767  | 7767   | 4.86  | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 8630  | 8630   | 5.14  | 5.91  | 5.58  | 5.06                                | 1  | 1   |

#### PROGRAM: Residential Multi Family Survey Video & DVDs

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>104.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>100.0 KWH/CUST/YR                      | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR           |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 33.42 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 \$/CUST | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
|      | COCTOMERO   | COSTONIERO   | (C/KWII)                           | (C/RWII)                                    | (CIKWII)                                      | (C/KWII)                            | Merok                                    | 1110755                                   |
| 2010 | 778   | 778  | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 1556  | 1556   | 3.65                               | 3.92  | 3.99  | 3.65                                | 1  | 4   |
| 2012 | 2334  | 2334   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 4   |
| 2013 | 3112  | 3112   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 3890  | 3890   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 4668  | 4668   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 5446  | 5446   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 6224  | 6224   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 7002  | 7002   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 7780  | 7780   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

#### PROGRAM: Residential Multi Family Survey On Line

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|---|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>104.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>100.0 KWH/CUST/YR   | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                                   |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 47.63 \$/CUST 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |

SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Multi Family Survey On Line

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

| (9)                                       | (8)                                      | (7)  | (6)  | (5)  | (4)<br>UTILITY<br>AVERAGE  | (3)   | (2)   | (1)  |
|---|--|--|--|--|--|---|---|--|
| PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | REPLACEMENT<br>FUEL COST<br>(C/KWH)  | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH)                        | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH)                          | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH)   | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS                | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS                           | YEAR   |
| 1<br>1<br>1<br>1<br>1<br>1<br>1           | 1<br>1<br>1<br>1<br>1<br>1<br>1          | 3.36<br>3.65<br>3.93<br>4.05<br>4.14<br>4.34<br>4.48<br>4.67<br>4.85<br>5.06 | 3.87<br>3.99<br>4.24<br>4.47<br>4.65<br>4.96<br>5.20<br>5.60<br>5.91 | 3.73<br>3.92<br>4.21<br>4.40<br>4.59<br>4.83<br>5.04<br>5.34<br>5.53 | 3.36<br>3.65<br>3.93<br>4.05<br>4.14<br>4.34<br>4.48<br>4.67<br>4.86<br>5.14 | 566<br>1132<br>1698<br>2264<br>2830<br>3396<br>3962<br>4528<br>5094 | 566<br>1132<br>1698<br>2264<br>2830<br>3396<br>3962<br>4528<br>5094<br>5660 | 2010<br>2011<br>2012<br>2013<br>2014<br>2015<br>2016<br>2017<br>2018<br>2019 |

#### PROGRAM: Residential Lighting Program (CFL)

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|---|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.04 KW/CUST<br>0.04 KW GEN/CUST<br>3.9 %<br>60.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>58.4 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN. TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O & M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                                     |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER   | 1.00 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03   |   |

<sup>•</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Lighting Program (CFL)

| (1)  | (2)   | (3)  | (4)<br>UTILITY                                | (5)   | (6)   | (7)                           | (8)                                      | (9)                                       |
|------|---|--|---|---|---|-------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | AVERAGE<br>SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT FUEL COST (C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 2876  | 2876   | 3.36  | 3.73  | 3.87  | 3.36                          | ĭ  | 1   |
| 2011 | 5752  | 5752   | 3.65  | 3.92  | 3.99  | 3.65                          | i  | 1   |
| 2012 | 8628  | 8628   | 3.93  | 4.21  | 4.24  | 3.93                          | 1  | 1   |
| 2013 | 11504   | 11504  | 4.05  | 4.40  | 4.47  | 4.05                          | 1  | 1   |
| 2014 | 14380   | 14380  | 4.14  | 4.59  | 4.65  | 4.14                          | 1  | 1   |
| 2015 | 17256   | 17256  | 4.34  | 4.83  | 4.96  | 4.34                          | 1  | 1   |
| 2016 | 20132   | 20132  | 4.48  | 5.04  | 5.20  | 4.48                          | 1  | 1   |
| 2017 | 23008   | 23008  | 4.67  | 5.34  | 5.60  | 4.67                          | 1  | 1   |
| 2018 | 25884   | 25884  | 4.86  | 5.53  | 5.91  | 4.85                          | 1  | 1   |
| 2019 | 28760   | 28760  | 5.14  | 5.91  | 5.58  | 5.06                          | 1  | 1   |

#### PROGRAM: Residential Energy Efficiency Insulation

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER   | 0.17 KW/CUST<br>0.18 KW GEN/CUST<br>3.9 %<br>477.6 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>459.0 KWH/CUST/YR             | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |
| II. ECONOMIC LIFE AND K FACTORS  (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) T&D FIXED O&M ESCALATION RATE (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                               |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 154.29 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 576.45 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 270.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 100.00 \$/CUST 0.00 \$/CUST | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

#### PROGRAM: Residential Energy Efficiency Insulation

\* Avoided Generation Unit: 7FA CT 1.00

\* Program Generation Equivilency Factor:

| (1)  | (2)               | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)              | (6)       | (7)         | (8)                  | (9)           |
|------|-------------------|---------------|---------------------------|------------------|-----------|-------------|----------------------|---------------|
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM                    | AVOIDED          | INCREASED |             | PROGRAM              | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL                      | MARGINAL         | MARGINAL  | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS                     | <b>FUEL COST</b> | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)                   | (C/KWH)          | (C/KWH)   | (C/KWH)     | FACTOR               | FACTOR        |
|      |                   |               |                           |                  |           |             |                      |               |
| 2010 | 225               | 225           | 3.36                      | 3.73             | 3.87      | 3.36        | 1                    | 1             |
| 2011 | 450               | 450           | 3.65                      | 3.92             | 3.99      | 3.65        | 1                    | 1             |
| 2012 | 675               | 675           | 3.93                      | 4.21             | 4.24      | 3.93        | ĭ                    | 1             |
| 2013 | 900               | 900           | 4.05                      | 4.40             | 4.47      | 4.05        | 1                    | 1             |
| 2014 | 1125              | 1125          | 4.14                      | 4.59             | 4.65      | 4.14        | 1                    | 1.            |
| 2015 | 1350              | 1350          | 4.34                      | 4.83             | 4.96      | 4.34        | Ĩ                    | 1             |
| 2016 | 1575              | 1575          | 4.48                      | 5.04             | 5.20      | 4.48        | 1                    | 1             |
| 2017 | 1800              | 1800          | 4.67                      | 5.34             | 5.60      | 4.67        | 1                    | 1             |
| 2018 | 2025              | 2025          | 4.86                      | 5.53             | 5.91      | 4.85        | 1                    | 1             |
| 2019 | 2250              | 2250          | 5.14                      | 5.91             | 5.58      | 5.06        | 1                    | 1             |

# PROGRAM: Residential Energy Efficiency High Performance Windows

| IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |  |
|--|--|--|
| (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/KW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/KW         (6) BASE YEAR DISTRIBUTION COST       0 \$/KW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED 0 & M COST       10.74022 \$/KW/YR         (9) GENERATOR FIXED 0 & M COST       2.5 %         (10) TRANSMISSION FIXED 0 & M COST       0 \$/KW/YR         (11) DISTRIBUTION FIXED 0 & M COST       0 \$/KW/YR         (12) T&D FIXED 0&M ESCALATION RATE       0 % |  |  |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS   |  |  |
| V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL 8.536 CENTS/KWH (2) NON-FUEL ESCALATION RATE 2.0 % (3) CUSTOMER DEMAND CHARGE PER KW 0.00 \$/KW/MO (4) DEMAND CHARGE ESCALATION RATE 2.5 %  (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL 1.0   |  |  |
|  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Residential Energy Efficiency High Performance Windows

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)       | (7)         | (8)                  | (9)           |
|------|---------------|---------------|---------------------------|-----------|-----------|-------------|----------------------|---------------|
|      | CUMULATIVE    | ADJUSTED      | SYSTEM                    | AVOIDED   | INCREASED |             | PROGRAM              | PROGRAM       |
|      | TOTAL         | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL  | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)_  | (C/KWH)     | FACTOR               | FACTOR        |
|      |               |               |                           |           |           |             |                      |               |
| 2010 | 105           | 105           | 3.36                      | 3.73      | 3.87      | 3.36        | 1.                   | 1             |
| 2011 | 210           | 210           | 3.65                      | 3.92      | 3.99      | 3.65        | 1                    | 1             |
| 2012 | 315           | 315           | 3.93                      | 4.21      | 4.24      | 3.93        | 1                    | 1             |
| 2013 | 420           | 420           | 4.05                      | 4.40      | 4.47      | 4.05        | I                    | 1             |
| 2014 | 525           | 525           | 4.14                      | 4.59      | 4.65      | 4.14        | 1                    | 1             |
| 2015 | 630           | 630           | 4.34                      | 4.83      | 4.96      | 4.34        | 1                    | 1             |
| 2016 | 735           | 735           | 4.48                      | 5.04      | 5.20      | 4.48        | 1                    | 1             |
| 2017 | 840           | 840           | 4.67                      | 5.34      | 5.60      | 4.67        | 1                    | 1             |
| 2018 | 945           | 945           | 4.86                      | 5.53      | 5.91      | 4.85        | 1                    | 1             |
| 2019 | 1050          | 1050          | 5.14                      | 5.91      | 5.58      | 5.06        | 1                    | 15            |

#### PROGRAM: Residential Energy Efficiency Gold Ring

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|--|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.89 KW/CUST<br>0.93 KW GEN/CUST<br>3.9 %<br>1,366.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1,313.5 KWH/CUST/YR                                  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O & M COST | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR   |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER<br>(2)** UTILITY RECURRING COST PER CUSTOMER  | 411.44 \$/CUST<br>0.00 \$/CUST/YR  | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %  | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Gold Ring

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (                 | 1) (2)                               | (3)                                     | (4)<br>UTILITY<br>AVERAGE | (5)                              | (6)                                | (7)                      | (8)                            | (9)                             |
|-------------------|--------------------------------------|---|---------------------------|----------------------------------|------------------------------------|--------------------------|--------------------------------|---------------------------------|
|                   | CUMULATIVE<br>TOTAL<br>PARTICIPATING | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING | SYSTEM<br>FUEL<br>COSTS   | AVOIDED<br>MARGINAL<br>FUEL COST | INCREASED<br>MARGINAL<br>FUEL COST | REPLACEMENT<br>FUEL COST | PROGRAM<br>KW<br>EFFECTIVENESS | PROGRAM<br>KWH<br>EFFECTIVENESS |
| YEA               | R CUSTOMERS                          | CUSTOMERS                               | (C/KWH)                   | (C/KWH)                          | (C/KWH)                            | (C/KWH)                  | FACTOR                         | FACTOR                          |
| 201<br>201<br>201 | 1 12                                 | 6                                       | 3.36<br>3.65              | 3.73<br>3.92                     | 3.87<br>3.99                       | 3.36<br>3.65             | 1                              | 1 1                             |
| 201               | 3 24                                 | 18<br>24<br>30                          | 3.93<br>4.05<br>4.14      | 4.21<br>4.40<br>4.59             | 4.24<br>4.47<br>4.65               | 3.93<br>4.05<br>4.14     | 1                              | 1 1                             |
| 201<br>201        | 6 42                                 | 36<br>42                                | 4.34<br>4.48              | 4.83<br>5.04                     | 4.96<br>5.20                       | 4.34<br>4.48             | 1                              | 1<br>1                          |
| 201<br>201<br>201 | 8 54                                 | 48<br>54<br>60                          | 4.67<br>4.86<br>5.14      | 5.34<br>5.53<br>5.91             | 5.60<br>5.91<br>5.58               | 4.67<br>4.85<br>5.06     | 1.                             | 1<br>1<br>1                     |

# PROGRAM: Residential Home Energy Fix Up

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |
|---|--|--|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.27 KW/CUST<br>0.28 KW GEN/CUST<br>3.9 %<br>260.1 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>250.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %  |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 78.31 \$/CUST 0.00 \$/CUST/YR 2.5 % 97.76 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 0.00 \$/KW/MO   |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Home Energy Fix Up

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

|   | (1)  | (2)           | (3)           | (4)<br>UTILITY | (5)       | (6)              | (7)         | (8)                  | (9)           |
|---|------|---------------|---------------|----------------|-----------|------------------|-------------|----------------------|---------------|
|   |      |               |               | AVERAGE        |           |                  |             |                      |               |
|   |      | CUMULATIVE    | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|   |      | TOTAL         | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|   |      | PARTICIPATING | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| Y | EAR  | CUSTOMERS     | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|   | 2010 | 122           |               | 1212           | 200227    |                  |             |                      | 48            |
|   | 2010 | 52            | 52            | 3.36           | 3.73      | 3.87             | 3.36        | I,                   | 1             |
|   | 2011 | 104           | 104           | 3.65           | 3.92      | 3.99             | 3.65        | 1                    | 1             |
|   | 2012 | 156           | 156           | 3.93           | 4.21      | 4.24             | 3.93        | 1                    | 1             |
|   | 2013 | 208           | 208           | 4.05           | 4.40      | 4.47             | 4.05        | 1                    | 1             |
|   | 2014 | 260           | 260           | 4.14           | 4.59      | 4.65             | 4.14        | 1                    | 1             |
|   | 2015 | 312           | 312           | 4.34           | 4.83      | 4.96             | 4.34        | 1                    | 1             |
|   | 2016 | 364           | 364           | 4.48           | 5.04      | 5.20             | 4.48        | 1                    | 1             |
|   | 2017 | 416           | 416           | 4.67           | 5.34      | 5.60             | 4.67        | 1                    | 1             |
|   | 2018 | 468           | 468           | 4.86           | 5.53      | 5.91             | 4.85        | 1                    | 1             |
|   | 2019 | 520           | 520           | 5.14           | 5.91      | 5.58             | 5.06        | 1                    | 1             |

#### PROGRAM: Residential Energy Efficiency Duct Repair

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS                             |
|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER   | (3) IN-SERVICE YEAR FOR AVOIDED T & D                                     |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM 10 YEARS (2) GENERATOR ECONOMIC LIFE 20 YEARS (3) T & D ECONOMIC LIFE 20 YEARS (4) K FACTOR FOR GENERATION 0.22 (5) K FACTOR FOR T & D 0.00 (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1) 1   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS                                |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER 107.50 \$/CUST (2)** UTILITY RECURRING COST PER CUSTOMER 0.00 \$/CUST/YR (3) UTILITY COST ESCALATION RATE 2.5 % 450.00 \$/CUST  | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL |
| (5) CUSTOMER EQUIPMENT ESCALATION RATE       2.5 %         (6) CUSTOMER O & M COST       0.00 \$/CUST/YR         (7) CUSTOMER O & M ESCALATION RATE       2.5 %         (8)* CUSTOMER TAX CREDIT PER INSTALLATION       0.00 \$/CUST         (9)* CUSTOMER TAX CREDIT ESCALATION RATE       0.0 %         (10)* INCREASED SUPPLY COSTS       0.00 \$/CUST/YR         (11)* SUPPLY COSTS ESCALATION RATE       2.5 %         (12)* UTILITY DISCOUNT RATE       8.00 %         (13)* UTILITY AFUDC RATE       8.00 %         (14)* UTILITY NON RECURRING REBATE/INCENTIVE       150.00 \$/CUST/YR         (15)* UTILITY RECURRING REBATE/INCENTIVE       0.00 \$/CUST/YR | (2) NON-FUEL ESCALATION RATE  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | * FIRE Program Version Number: 1.03                                       |

<sup>◆</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Duct Repair

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)          | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|--------------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR         | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010         | 126   | 126  | 2.26                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2010         | 135<br>270  | 135<br>270   | 3.36<br>3.65                       | 3.73  | 3.99  | 3.65                                | 1  | 1   |
| 2011<br>2012 | 405   | 405  | 3.93                               | 4.21  | 4.24  | 3.93                                | Ī  | 1   |
| 2012         | 540   | 540  | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2013         | 675   | 675  | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015         | 810   | 810  | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016         | 945   | 945  | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017         | 1080  | 1080   | 4.67                               | 5.34  | 5.60  | 4.67                                | E .                                      | 1   |
| 2018         | 1215  | 1215   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019         | 1350  | 1350   | 5.14                               | 5.91  | 5,58  | 5.06                                | Î  | 1   |

#### PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |
|--|---|---|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER   | 0.31 KW /CUST<br>0.32 KW GEN/CUST<br>3.9 %<br>715.0 KWH/CUST/YR<br>3.9 %<br>1,0000<br>0.0 KWH/CUST/YR<br>687.2 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6) SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O &M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 %<br>0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 215.24 \$/CUST<br>0.00 \$/CUST/YR   | V. NON-FUEL ENERGY AND DEMAND CHARGES   |   |
| (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE INCENTIVE (15)* UTILITY RECURRING REBATE INCENTIVE | 2.5 % 650.94 \$/CUST 2.5 % 0.00 \$/CUST/YR 2.5 % 1,500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 150.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST/YR 0.00 \$/CUST/YR 0.00 \$/CUST/YR | (1) NON-FUEL COST IN CUSTOMER BILL  | 8.536 CENTS/KWH<br>2.0 %<br>0.00 \$/KW/MO<br>2.5 %  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.0 %   | * FIRE Program Version Number: 1.03   |   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Residential Energy Efficiency Cool Reflective Roof

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
|      |   | -370   |                                    |   | 2000  | Sec Code                            |  |   |
| 2010 | 13  | 13   | 3.36                               | 3.73  | 3.87  | 3.36                                | 1  | 1   |
| 2011 | 26  | 26   | 3.65                               | 3.92  | 3.99  | 3.65                                | 1  | 1   |
| 2012 | 39  | 39   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 52  | 52   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 65  | 65   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 78  | 78   | 4.34                               | 4.83  | 4.96  | 4.34                                | 1  | 1   |
| 2016 | 91  | 91   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 104   | 104  | 4.67                               | 5.34  | 5,60  | 4.67                                | 1  | 1   |
| 2018 | 117   | 117  | 4.86                               | 5.53  | 5.91  | 4.85                                | Ĩ  | 1   |
| 2019 | 130   | 130  | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

## PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |
|---|---|--|---|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.00 KW/CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>26.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>25.0 KWH/CUST/YR   | (1) BASE YEAR  | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                                   |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 7.83 \$/CUST 0.00 \$/CUST/YR 2.5 % 100.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 30.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST 0.00 \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL  | 2.0 %<br>0.00 \$/KW/MO<br>2.5 %   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)               | (3)               | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|-------------------|-------------------|----------------|-----------|-----------|-------------|---------------|---------------|
|      |                   |                   | AVERAGE        |           |           |             |               |               |
|      | <b>CUMULATIVE</b> | ADJUSTED          | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL             | <b>CUMULATIVE</b> | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING     | PARTICIPATING     | COSTS          | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS         | CUSTOMERS         | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
|      |                   |                   |                |           |           |             |               |               |
| 2010 | 34                | 34                | 3.36           | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011 | 68                | 68                | 3.65           | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012 | 102               | 102               | 3.93           | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013 | 136               | 136               | 4.05           | 4.40      | 4.47      | 4.05        | 1             | 1             |
| 2014 | 170               | 170               | 4.14           | 4.59      | 4.65      | 4.14        | 1             | T             |
| 2015 | 204               | 204               | 4.34           | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016 | 238               | 238               | 4.48           | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 272               | 272               | 4.67           | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018 | 306               | 306               | 4.86           | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 340               | 340               | 5.14           | 5.91      | 5.58      | 5.06        | 1             | 1             |

## PROGRAM: Commercial Heat Pump SEER 18

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |
|---|--|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.65 KW /CUST<br>0.68 KW GEN/CUST<br>3.9 %<br>1.423.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1.368.0 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |  |  |
| (1)** UTILITY AND CUSTOMER COSTS  (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 %<br>0.00 \$/CUST/YR<br>2.5 %  | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 % |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03   |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

## PROGRAM: Commercial Heat Pump SEER 18

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

|   | (1)  | (2)               | (3)           | (4)            | (5)       | (6)              | (7)         | (8)           | (9)           |
|---|------|-------------------|---------------|----------------|-----------|------------------|-------------|---------------|---------------|
|   |      |                   |               | UTILITY        |           |                  |             |               |               |
|   |      |                   |               | <b>AVERAGE</b> |           |                  |             |               |               |
|   |      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM       | PROGRAM       |
|   |      | TOTAL             | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW            | KWH           |
|   |      | PARTICIPATING     | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| - | YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR        | FACTOR        |
|   |      |                   |               |                |           |                  |             |               |               |
|   | 2010 | 3                 | 3             | 3.36           | 3.73      | 3.87             | 3.36        | 1             | 1             |
|   | 2011 | 6                 | 6             | 3.65           | 3.92      | 3.99             | 3.65        | 1             | 1             |
|   | 2012 | 9                 | 9             | 3.93           | 4.21      | 4.24             | 3.93        | 1             | 1             |
|   | 2013 | 12                | 12            | 4.05           | 4.40      | 4.47             | 4.05        | 1             | 1             |
|   | 2014 | 15                | 15            | 4.14           | 4.59      | 4.65             | 4.14        | 1             | 1             |
|   | 2015 | 18                | 18            | 4.34           | 4.83      | 4.96             | 4.34        | 1             | 1             |
|   | 2016 | 21                | 21            | 4.48           | 5.04      | 5.20             | 4.48        | 1             | 1             |
|   | 2017 | 24                | 24            | 4.67           | 5.34      | 5.60             | 4.67        | 1             | 1             |
|   | 2018 | 27                | 27            | 4.86           | 5.53      | 5.91             | 4.85        | 1             | 1             |
|   | 2019 | 30                | 30            | 5.14           | 5.91      | 5.58             | 5.06        | 1             | 1             |
|   |      |                   |               |                |           |                  |             |               |               |

## PROGRAM: Commercial Heat Pump SEER 17

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |  |  |
|---|---|---|---|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.60 KW/CUST<br>0.62 KW GEN/CUST<br>3.9 %<br>1,215.4 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>1,168.0 KWH/CUST/YR | (1) BASE YEAR   | 2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O &M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR                       |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 300.00 \$/CUST 0.00 \$/CUST            | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  *FIRE Program Version Number: 1.03           | 2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %   | * FIRE Program Version Number: 1.03   |   |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Heat Pump SEER 17

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE                                    | (5)  | (6)  | (7)  | (8)                                      | (9)                                       |
|--|---|--|--|--|--|--|--|---|
| YEAR   | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH)                           | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH)                  | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH)                        | REPLACEMENT<br>FUEL COST<br>(C/KWH)                          | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010<br>2011<br>2012<br>2013<br>2014<br>2015<br>2016<br>2017<br>2018 | 4<br>8<br>12<br>16<br>20<br>24<br>28<br>32        | 4<br>8<br>12<br>16<br>20<br>24<br>28<br>32           | 3.36<br>3.65<br>3.93<br>4.05<br>4.14<br>4.34<br>4.48<br>4.67 | 3.73<br>3.92<br>4.21<br>4.40<br>4.59<br>4.83<br>5.04<br>5.34 | 3.87<br>3.99<br>4.24<br>4.47<br>4.65<br>4.96<br>5.20<br>5.60<br>5.91 | 3.36<br>3.65<br>3.93<br>4.05<br>4.14<br>4.34<br>4.48<br>4.67 | 1<br>1<br>1<br>1<br>1<br>1<br>1          | 1<br>1<br>1<br>1<br>1<br>1                |

#### PROGRAM: Commercial Heat Pump SEER 16

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |
|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.45 KW /CUST<br>0.47 KW GEN/CUST<br>3.9 %<br>969.8 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>932.0 KWH/CUST/YR | (1) BASE YEAR  (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT  (3) IN-SERVICE YEAR FOR AVOIDED T & D  (4) BASE YEAR AVOIDED GENERATING UNIT COST  (5) BASE YEAR AVOIDED TRANSMISSION COST  (6) BASE YEAR DISTRIBUTION COST  (7) GEN, TRAN, & DIST COST ESCALATION RATE  (8) GENERATOR FIXED O & M COST  (9) GENERATOR FIXED O&M ESCALATION RATE  (10) TRANSMISSION FIXED O & M COST  (11) DISTRIBUTION FIXED O & M COST  (12) T&D FIXED O&M ESCALATION RATE | 0 \$/KW<br>0 \$/KW<br>0 %                          |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE   | 0 CENTS/KWH<br>2.5 %<br>15 %                       |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER  | 129.84 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |  |
| (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 2.5 % 0.00 \$/CUST/YR 2.5 % 1.500.00 \$/CUST 0.0 % 0.00 \$/CUST/YR 2.5 % 8.00 % 0.00 % 300.00 \$/CUST 0.00 \$/CUST         | (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 % |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | * FIRE Program Version Number: 1.03  |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Heat Pump SEER 16

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)          | (2)   | (3)  | (4)<br>UTILITY                                | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|--------------|---|--|---|---|---|-------------------------------------|--|---|
| YEAR         | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | AVERAGE<br>SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010         | 2   | 7  | 2.26  | 3.73  | 3.87  | 3.36                                | 1  | E   |
| 2010<br>2011 | 14  | 14   | 3.36<br>3.65                                  | 3.73  | 3.99  | 3.65                                | 1  | 1   |
| 2012         | 21  | 21   | 3.93  | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013         | 28  | 28   | 4.05  | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014         | 35  | 35   | 4.14  | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015         | 42  | 42   | 4.34  | 4.83  | 4.96  | 4.34                                | 1  | I.  |
| 2016         | 49  | 49   | 4.48  | 5.04  | 5.20  | 4,48                                | 1  | I   |
| 2017         | 56  | 56   | 4.67  | 5.34  | 5.60  | 4.67                                | Ī  | I   |
| 2018         | 63  | 63   | 4.86  | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019         | 70  | 70   | 5.14  | 5.91  | 5.58  | 5.06                                | T  | 1   |

# PROGRAM: Commercial Heat Pump SEER 15

| IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |
|---|
| UST (1) BASE YEAR   |
| (12) 1 & D FIXED O&M ESCALATION RATE  |
| T T/YR  V. NON-FUEL ENERGY AND DEMAND CHARGES  T  (1) NON-FUEL COST IN CUSTOMER BILL (2) NON-FUEL ESCALATION RATE (2) NON-FUEL ESCALATION RATE (3) CUSTOMER DEMAND CHARGE PER KW (4) DEMAND CHARGE ESCALATION RATE (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL  T  T/YR  * FIRE Program Version Number: 1.03 |
|   |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

## PROGRAM: Commercial Heat Pump SEER 15

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)               | (4)<br>UTILITY | (5)       | (6)       | (7)         | (8)           | (9)           |
|------|---------------|-------------------|----------------|-----------|-----------|-------------|---------------|---------------|
|      |               |                   | AVERAGE        |           |           |             |               |               |
|      | CUMULATIVE    | ADJUSTED          | SYSTEM         | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|      | TOTAL         | <b>CUMULATIVE</b> | FUEL           | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|      | PARTICIPATING | PARTICIPATING     | COSTS          | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR | CUSTOMERS     | CUSTOMERS         | (C/KWH)        | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
|      |               |                   |                |           |           |             |               |               |
| 2010 | 4             | 4                 | 3.36           | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011 | 8             | 8                 | 3.65           | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012 | 12            | 12                | 3.93           | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013 | 16            | 16                | 4.05           | 4.40      | 4.47      | 4.05        | 1             | 1             |
| 2014 | 20            | 20                | 4.14           | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015 | 24            | 24                | 4.34           | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016 | 28            | 28                | 4.48           | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017 | 32            | 32                | 4.67           | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018 | 36            | 36                | 4.86           | 5.53      | 5.91      | 4.85        | 1             | 1             |
| 2019 | 40            | 40                | 5.14           | 5.91      | 5.58      | 5.06        | 1             | 1             |

# PROGRAM: Commercial Heat Pump SEER 14

| IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |  |
|---|--|--|--|--|
| (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/KW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/KW         (6) BASE YEAR DISTRIBUTION COST       0 \$/KW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED O & M COST       10.74022 \$/KW/YR         (9) GENERATOR FIXED O & M ESCALATION RATE       2.5 %         (10) TRANSMISSION FIXED O & M COST       0 \$/KW/YR         (11) DISTRIBUTION FIXED O & M COST       0 \$/KW/YR         (12) T&D FIXED O & M ESCALATION RATE       0 % |  |  |  |  |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS       0 CENTS/KWH         (14) GENERATOR VARIABLE O & M COST ESCALATION RATE       2.5 %         (15) GENERATOR CAPACITY FACTOR       15 %         (16) AVOIDED GENERATING UNIT FUEL COST       3.363149 CENTS/KWH         (17) AVOIDED GEN UNIT FUEL ESCALATION RATE       2.5 %         (18)* AVOIDED PURCHASE CAPACITY COST PER KW       0 \$/KW/YR         (19)* CAPACITY COST ESCALATION RATE       2.5 %   |  |  |  |  |
| V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL 3.586 CENTS/KWH (2) NON-FUEL ESCALATION RATE 2.0 % (3) CUSTOMER DEMAND CHARGE PER KW 7.98 \$/KW/MO (4) DEMAND CHARGE ESCALATION RATE 2.5 % (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL 1.0   |  |  |  |  |
|   |  |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2 INPUT DATA -- PART 2

# PROGRAM: Commercial Heat Pump SEER 14

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor:

1.00

| (    | 1) (2)            | (3)           | (4)<br>UTILITY | (5)       | (6)              | (7)         | (8)                  | (9)           |
|------|-------------------|---------------|----------------|-----------|------------------|-------------|----------------------|---------------|
|      |                   |               | AVERAGE        |           |                  |             |                      |               |
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM         | AVOIDED   | <b>INCREASED</b> |             | PROGRAM              | PROGRAM       |
|      | TOTAL             | CUMULATIVE    | FUEL           | MARGINAL  | MARGINAL         | REPLACEMENT | KW                   | KWH           |
|      | PARTICIPATING     | PARTICIPATING | COSTS          | FUEL COST | FUEL COST        | FUEL COST   | <b>EFFECTIVENESS</b> | EFFECTIVENESS |
| YEAR | R CUSTOMERS       | CUSTOMERS     | (C/KWH)        | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR               | FACTOR        |
|      |                   |               |                |           |                  |             |                      |               |
| 2010 | 0                 | 1             | 3.36           | 3.73      | 3.87             | 3.36        | 1                    | 1             |
| 201  | 1 2               | 2             | 3.65           | 3.92      | 3.99             | 3.65        | 1                    | 1             |
| 2012 | 2 3               | 3             | 3.93           | 4.21      | 4.24             | 3.93        | 1                    | 1             |
| 2013 | 3 4               | 4             | 4.05           | 4.40      | 4.47             | 4.05        | 1                    | 1             |
| 2014 | 4 5               | 5             | 4.14           | 4.59      | 4.65             | 4.14        | 1                    | 1             |
| 201: | 5 6               | 6             | 4.34           | 4.83      | 4.96             | 4.34        | 1                    | 1             |
| 2016 | 5 7               | 7             | 4.48           | 5.04      | 5.20             | 4.48        | 1                    | 1             |
| 201  | 7 8               | 8             | 4.67           | 5.34      | 5.60             | 4.67        | 1                    | 1             |
| 2018 | 8 9               | 9             | 4.86           | 5.53      | 5.91             | 4.85        | 1                    | 1             |
| 2019 | 9 10              | 10            | 5.14           | 5.91      | 5.58             | 5.06        | 1                    | 1             |

#### PROGRAM: Commercial Indoor Lighting

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |
|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER 81.00 KW /CUST (2) GENERATOR KW REDUCTION PER CUSTOMER 84.29 KW GEN/CUST (3) KW LINE LOSS PERCENTAGE 37.9 % (4) GENERATION KWH REDUCTION PER CUSTOMER 378,629.6 KWH/CUST/YR (5) KWH LINE LOSS PERCENTAGE 37.9 % (6) GROUP LINE LOSS MULTIPLIER 1.0000 (7) CUSTOMER KWH PROGRAM INCREASE AT METER 0.0 KWH/CUST/YR (8)* CUSTOMER KWH REDUCTION AT METER 363.863.0 KWH/CUST/YR | (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/KW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/KW         (6) BASE YEAR DISTRIBUTION COST       0 \$/KW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED O & M COST       10.74022 \$/KW/YR         (9) GENERATOR FIXED O & M COST       2.5 %         (10) TRANSMISSION FIXED O & M COST       0 \$/KW/YR         (11) DISTRIBUTION FIXED O & M COST       0 \$/KW/YR         (12) T&D FIXED O&M ESCALATION RATE       0 % |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM 10 YEARS (2) GENERATOR ECONOMIC LIFE 20 YEARS (3) T & D ECONOMIC LIFE 20 YEARS (4) K FACTOR FOR GENERATION 0.22 (5) K FACTOR FOR T & D 0.00 (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1) 1   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0 CENTS/KWH  (14) GENERATOR VARIABLE O & M COST ESCALATION RATE 2.5 %  (15) GENERATOR CAPACITY FACTOR 15 %  (16) AVOIDED GENERATING UNIT FUEL COST 3.363149 CENTS/KWH  (17) AVOIDED GEN UNIT FUEL ESCALATION RATE 2.5 %  (18)* AVOIDED PURCHASE CAPACITY COST PER KW 0 \$/KW/YR  (19)* CAPACITY COST ESCALATION RATE 2.5 %  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER 48,143.55 \$/CUST (2)** UTILITY RECURRING COST PER CUSTOMER   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |
| (3) UTILITY COST ESCALATION RATE   | (1) NON-FUEL COST IN CUSTOMER BILL   |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE 0.0 %  | * FIRE Program Version Number: 1.03  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

## PROGRAM: Commercial Indoor Lighting

\* Avoided Generation Unit:

7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)                 | (3)                    | (4)<br>UTILITY<br>AVERAGE | (5)                 | (6)                   | (7)         | (8)           | (9)            |
|------|---------------------|------------------------|---------------------------|---------------------|-----------------------|-------------|---------------|----------------|
|      | CUMULATIVE<br>TOTAL | ADJUSTED<br>CUMULATIVE | SYSTEM<br>FUEL            | AVOIDED<br>MARGINAL | INCREASED<br>MARGINAL | REPLACEMENT | PROGRAM<br>KW | PROGRAM<br>KWH |
|      | PARTICIPATING       | PARTICIPATING          | COSTS                     | FUEL COST           | FUEL COST             | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS  |
| YEAR | CUSTOMERS           | CUSTOMERS              | (C/KWH)                   | (C/KWH)             | (C/KWH)               | (C/KWH)     | FACTOR        | FACTOR         |
|      |                     |                        |                           |                     |                       |             |               |                |
| 2010 | 8                   | 8                      | 3.36                      | 3.73                | 3.87                  | 3.36        | 1             | 1              |
| 2011 | 16                  | 16                     | 3.65                      | 3.92                | 3.99                  | 3.65        | 1             | 1              |
| 2012 | 24                  | 24                     | 3.93                      | 4.21                | 4.24                  | 3.93        | 1             | 1              |
| 2013 | 32                  | 32                     | 4.05                      | 4.40                | 4.47                  | 4.05        | 1             | 1              |
| 2014 | 40                  | 40                     | 4.14                      | 4.59                | 4.65                  | 4.14        | 1             | 1              |
| 2015 | 48                  | 48                     | 4.34                      | 4.83                | 4.96                  | 4.34        | 1             | 1              |
| 2016 | 56                  | 56                     | 4.48                      | 5.04                | 5.20                  | 4.48        | 1             | 1              |
| 2017 | 64                  | 64                     | 4.67                      | 5.34                | 5.60                  | 4.67        | 1             | 1              |
| 2018 | 72                  | 72                     | 4.86                      | 5.53                | 5.91                  | 4.85        | 1             | 1              |
| 2019 | 80                  | 80                     | 5.14                      | 5.91                | 5.58                  | 5.06        | 1             | 1              |

## PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES  |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |   |  |  |  |
|--|--|--|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER | 0.00 KW /CUST<br>0.00 KW GEN/CUST<br>3.9 %<br>77.5 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>74.5 KWH/CUST/YR | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O &M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST | 2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>0 %<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR |  |  |  |
| II. ECONOMIC LIFE AND K FACTORS  |  | (12) T&D FIXED O&M ESCALATION RATE   | 10 MODEL 100 CODE   |  |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM  | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS   | 2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR  |  |  |  |
| III. UTILITY AND CUSTOMER COSTS  |  |  |   |  |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER   | 9.86 \$/CUST<br>0.00 \$/CUST/YR<br>2.5 %   | V. NON-FUEL ENERGY AND DEMAND CHARGES  |   |  |  |  |
| (4) CUSTOMER EQUIPMENT COST  | 356.00 \$/CUST   | (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH   |  |  |  |
| (5) CUSTOMER EQUIPMENT ESCALATION RATE   | 2.5 %  | (2) NON-FUEL ESCALATION RATE   | 2.0 %   |  |  |  |
| (6) CUSTOMER O & M COST  | 0.00 \$/CUST/YR  | (3) CUSTOMER DEMAND CHARGE PER KW  |   |  |  |  |
| (7) CUSTOMER O & M ESCALATION RATE   | 2.5 %  | (4) DEMAND CHARGE ESCALATION RATE  | 2.5 %   |  |  |  |
| (8)* CUSTOMER TAX CREDIT PER INSTALLATION  | 106.80 \$/CUST   | (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT<br>FACTOR FOR CUSTOMER BILL  | 1.0   |  |  |  |
| (10)* INCREASED SUPPLY COSTS   | 0.00 \$/CUST/YR  | FACTOR FOR COSTOWIER BILL  | 1.0   |  |  |  |
| (11)* SUPPLY COSTS ESCALATION RATE   | 2.5 %  |  |   |  |  |  |
| (12)* UTILITY DISCOUNT RATE  | 8.00 %   |  |   |  |  |  |
| (13)* UTILITY AFUDC RATE   | 0.00 %   |  |   |  |  |  |
| (14)* UTILITY NON RECURRING REBATE/INCENTIVE   | 133.43 \$/CUST   |  |   |  |  |  |
| (15)* UTILITY RECURRING REBATE/INCENTIVE(16)* UTILITY REBATE/INCENTIVE ESCAL RATE  | 0.00 \$/CUST/YR<br>0.0 %   | * FIRE Program Version Number: 1.03  |   |  |  |  |
| (10) OTHERT REDATE INCENTIVE ESCAL RATE  | U.U. 70  | TIME Flogram version number, 1.05  |   |  |  |  |

<sup>\*</sup>SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

\* Avoided Generation Unit: 7FA CT
\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)   | (3)  | (4)<br>UTILITY<br>AVERAGE          | (5)   | (6)   | (7)                                 | (8)                                      | (9)                                       |
|------|---|--|------------------------------------|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE<br>TOTAL<br>PARTICIPATING<br>CUSTOMERS | ADJUSTED<br>CUMULATIVE<br>PARTICIPATING<br>CUSTOMERS | SYSTEM<br>FUEL<br>COSTS<br>(C/KWH) | AVOIDED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | INCREASED<br>MARGINAL<br>FUEL COST<br>(C/KWH) | REPLACEMENT<br>FUEL COST<br>(C/KWH) | PROGRAM<br>KW<br>EFFECTIVENESS<br>FACTOR | PROGRAM<br>KWH<br>EFFECTIVENESS<br>FACTOR |
| 2010 | 7   | 7  | 3.36                               | 3.73  | 3.87  | 3.36                                | Ĭ  | 1   |
| 2011 | 14  | 14   | 3.65                               | 3.92  | 3.99  | 3.65                                | 1  | 1   |
| 2012 | 21  | 21   | 3.93                               | 4.21  | 4.24  | 3.93                                | 1  | 1   |
| 2013 | 28  | 28   | 4.05                               | 4.40  | 4.47  | 4.05                                | 1  | 1   |
| 2014 | 35  | 35   | 4.14                               | 4.59  | 4.65  | 4.14                                | 1  | 1   |
| 2015 | 42  | 42   | 4.34                               | 4.83  | 4.96  | 4.34                                | I  | 1   |
| 2016 | 49  | 49   | 4.48                               | 5.04  | 5.20  | 4.48                                | 1  | 1   |
| 2017 | 56  | 56   | 4.67                               | 5.34  | 5.60  | 4.67                                | 1  | 1   |
| 2018 | 63  | 63   | 4.86                               | 5.53  | 5.91  | 4.85                                | 1  | 1   |
| 2019 | 70  | 70   | 5.14                               | 5.91  | 5.58  | 5.06                                | 1  | 1   |

## PROGRAM: Commercial Energy Audit

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |  |  |
|---|---|---|--|--|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER (2) GENERATOR KW REDUCTION PER CUSTOMER (3) KW LINE LOSS PERCENTAGE (4) GENERATION KWH REDUCTION PER CUSTOMER (5) KWH LINE LOSS PERCENTAGE (6) GROUP LINE LOSS MULTIPLIER (7) CUSTOMER KWH PROGRAM INCREASE AT METER (8)* CUSTOMER KWH REDUCTION AT METER  | 0.15 KW /CUST<br>0.16 KW GEN/CUST<br>3.9 %<br>883.0 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>848.6 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR DISTRIBUTION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O&M ESCALATION RATE (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O &M COST | 0 \$/KW<br>0 \$/KW<br>0 %                          |  |  |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (12) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O & M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %                       |  |  |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY NON RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE | 576.50 S/CUST 0.00 S/CUST/YR 2.5 % 0.00 S/CUST 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 S/CUST 2.5 % 0.00 S/CUST 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 S/CUST/YR 2.5 % 0.00 % 0.00 % 0.00 % 0.00 S/CUST 0.00 S/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 % |  |  |  |  |
|   |   | * FIRE Program Version Number: 1.03   |  |  |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

#### PROGRAM: Commercial Energy Audit

\* Avoided Generation Unit: \* Program Generation Equivilency Factor:

2480

2480

5.14

2019

7FA CT

(8) (9) (1) (2) (3) (4) (5) (6) (7) UTILITY **AVERAGE** PROGRAM **PROGRAM** CUMULATIVE ADJUSTED SYSTEM AVOIDED INCREASED KWH TOTAL CUMULATIVE FUEL MARGINAL MARGINAL REPLACEMENT KW **EFFECTIVENESS EFFECTIVENESS** COSTS FUEL COST FUEL COST FUEL COST PARTICIPATING PARTICIPATING (C/KWH) FACTOR FACTOR YEAR CUSTOMERS CUSTOMERS (C/KWH) (C/KWH) (C/KWH) 3.36 2010 248 248 3.36 3.73 3.87 496 3.99 3.65 2011 496 3.65 3.92 2012 744 744 3.93 4.21 4.24 3.93 4.40 4.47 4.05 2013 992 992 4.05 4.59 4.65 4.14 2014 1240 1240 4.14 2015 1488 1488 4.34 4.83 4,96 4.34 5.04 5.20 4.48 2016 1736 1736 4.48 1984 5.34 5.60 4.67 2017 1984 4.67 4.85 2018 2232 2232 4.86 5.53 5.91

5.91

,

5.58

5.06

# PROGRAM: Commercial Energy Efficiency Duct

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |  | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |  |  |  |  |
|---|--|---|--|--|--|--|
| (2) GENERATOR KW REDUCTION PER CUSTOMER 0 (3) KW LINE LOSS PERCENTAGE 39 (4) GENERATION KWH REDUCTION PER CUSTOMER 39 (5) KWH LINE LOSS PERCENTAGE 1.00 (6) GROUP LINE LOSS MULTIPLIER 1.00 (7) CUSTOMER KWH PROGRAM INCREASE AT METER 1.00 | .22 KW /CUST<br>.23 KW GEN/CUST<br>3.9 %<br>1.3 KWH/CUST/YR<br>3.9 %<br>000<br>0.0 KWH/CUST/YR<br>6.0 KWH/CUST/YR  | (1) BASE YEAR (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT (3) IN-SERVICE YEAR FOR AVOIDED T & D (4) BASE YEAR AVOIDED GENERATING UNIT COST (5) BASE YEAR AVOIDED TRANSMISSION COST (6) BASE YEAR AVOIDED TRANSMISSION COST (7) GEN, TRAN, & DIST COST ESCALATION RATE (8) GENERATOR FIXED O & M COST (9) GENERATOR FIXED O & M COST (10) TRANSMISSION FIXED O & M COST (11) DISTRIBUTION FIXED O & M COST (12) T&D FIXED O & M COST | 2010<br>2018<br>2030<br>120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>10.74022 \$/KW/YR<br>2.5 %<br>0 \$/KW/YR<br>0 \$/KW/YR |  |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00   | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O&M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE  | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR<br>2.5 %                                     |  |  |  |
| (2)** UTILITY RECURRING COST PER CUSTOMER   | .10 \$/CUST<br>.00 \$/CUST/YR<br>.2.5 %<br>.00 \$/CUST/YR<br>.2.5 %<br>.00 \$/CUST/YR<br>.2.5 %<br>.00 \$/CUST<br>.2.5 %<br>.00 \$/CUST/YR<br>.2.5 %<br>.00 \$/CUST/YR<br>.00 \$/CUST/YR<br>.00 \$/CUST/YR | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 3.586 CENTS/KWH<br>2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |  |  |  |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE   | 0.0 %  | ◆FIRE Program Version Number: 1.03  |  |  |  |  |

\*SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PSC FORM CE 1.2

# PROGRAM: Commercial Energy Efficiency Duct

\* Avoided Generation Unit:

7FA CT

\* Program Generation Equivilency Factor:

1.00

| (9)           | (8)           | (7)         | (6)       | (5)       | (4)     | (3)           | (2)           | (1)  |
|---------------|---------------|-------------|-----------|-----------|---------|---------------|---------------|------|
|               |               |             |           |           | UTILITY |               |               |      |
|               |               |             |           |           | AVERAGE |               |               |      |
| PROGRAM       | PROGRAM       |             | INCREASED | AVOIDED   | SYSTEM  | ADJUSTED      | CUMULATIVE    |      |
| KWH           | KW            | REPLACEMENT | MARGINAL  | MARGINAL  | FUEL    | CUMULATIVE    | TOTAL         |      |
| EFFECTIVENESS | EFFECTIVENESS | FUEL COST   | FUEL COST | FUEL COST | COSTS   | PARTICIPATING | PARTICIPATING |      |
| FACTOR        | FACTOR        | (C/KWH)     | (C/KWH)   | (C/KWH)   | (C/KWH) | CUSTOMERS     | CUSTOMERS     | YEAR |
|               |               |             |           |           |         |               |               |      |
| 1             | 1             | 3.36        | 3.87      | 3.73      | 3.36    | 10            | 10            | 2010 |
| 1             | 1             | 3.65        | 3.99      | 3.92      | 3.65    | 20            | 20            | 2011 |
| 1             | 1             | 3.93        | 4.24      | 4.21      | 3.93    | 30            | 30            | 2012 |
| 1             | 1             | 4.05        | 4.47      | 4.40      | 4.05    | 40            | 40            | 2013 |
| 1             | 1             | 4.14        | 4.65      | 4.59      | 4.14    | 50            | 50            | 2014 |
| 1             | 1             | 4.34        | 4.96      | 4.83      | 4.34    | 60            | 60            | 2015 |
| 1             | 1             | 4.48        | 5.20      | 5.04      | 4.48    | 7.0           | 70            | 2016 |
| 1             | 1             | 4.67        | 5.60      | 5.34      | 4.67    | 80            | 80            | 2017 |
| 1             | 1             | 4.85        | 5.91      | 5.53      | 4.86    | 90            | 90            | 2018 |
| 1             | 1             | 5.06        | 5.58      | 5.91      | 5.14    | 100           | 100           | 2019 |

## PROGRAM: Commercial Energy Efficiency Cool Roof

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS  |  |  |  |  |
|---|--|--|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | (1) BASE YEAR       2010         (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT       2018         (3) IN-SERVICE YEAR FOR AVOIDED T & D       2030         (4) BASE YEAR AVOIDED GENERATING UNIT COST       120.0557 \$/kW         (5) BASE YEAR AVOIDED TRANSMISSION COST       0 \$/kW         (6) BASE YEAR DISTRIBUTION COST       0 \$/kW         (7) GEN, TRAN, & DIST COST ESCALATION RATE       0 %         (8) GENERATOR FIXED O & M COST       10.74022 \$/kW/YR         (9) GENERATOR FIXED O & M COST       2.5 %         (10) TRANSMISSION FIXED O & M COST       0 \$/kW/YR         (11) DISTRIBUTION FIXED O & M COST       0 \$/kW/YR         (12) T&D FIXED O&M ESCALATION RATE       0 % |  |  |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM 10 YEARS (2) GENERATOR ECONOMIC LIFE 20 YEARS (3) T & D ECONOMIC LIFE 20 YEARS (4) K FACTOR FOR GENERATION 0.22 (5) K FACTOR FOR T & D 0.00 (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1) 1  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0 CENTS/KWH (14) GENERATOR VARIABLE O & M COST SECALATION RATE 2.5 % (15) GENERATOR CAPACITY FACTOR 15 % (16) AVOIDED GENERATING UNIT FUEL COST 3.363149 CENTS/KWH (17) AVOIDED GEN UNIT FUEL ESCALATION RATE 2.5 % (18)* AVOIDED PURCHASE CAPACITY COST PER KW 0 \$\frac{1}{2}\$/KW/YR (19)* CAPACITY COST ESCALATION RATE 2.5 %   |  |  |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER       17.214.55       \$/CUST         (2)** UTILITY RECURRING COST PER CUSTOMER       0.00       \$/CUST/YR         (3) UTILITY COST ESCALATION RATE       2.5       %         (4) CUSTOMER EQUIPMENT COST       58.736.7       \$/CUST         (5) CUSTOMER EQUIPMENT ESCALATION RATE       2.5       %         (6) CUSTOMER O & M COST       0.00       \$/CUST/YR         (7) CUSTOMER O & M ESCALATION RATE       2.5       %         (8)* CUSTOMER TAX CREDIT PER INSTALLATION       1.500.00       \$/CUST | V. NON-FUEL ENERGY AND DEMAND CHARGES         (1) NON-FUEL COST IN CUSTOMER BILL       3.586 CENTS/KWH         (2) NON-FUEL ESCALATION RATE       2.0 %         (3) CUSTOMER DEMAND CHARGE PER KW       7.98 \$/KW/MO         (4) DEMAND CHARGE ESCALATION RATE       2.5 %         (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT  |  |  |  |  |
| (9)* CUSTOMER TAX CREDIT ESCALATION RATE       0.0 %         (10)* INCREASED SUPPLY COSTS       0.00 \$/CUST/YR         (11)* SUPPLY COSTS ESCALATION RATE       2.5 %         (12)* UTILITY DISCOUNT RATE       8.00 %         (13)* UTILITY AFUDC RATE       0.00 %         (14)* UTILITY NON RECURRING REBATE/INCENTIVE       4.316.71 \$/CUST         (15)* UTILITY RECURRING REBATE/INCENTIVE       0.00 \$/CUST/YR         (16)* UTILITY REBATE/INCENTIVE ESCAL RATE       0.0 %  | FACTOR FOR CUSTOMER BILL 1.0   |  |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

PROGRAM: Commercial Energy Efficiency Cool Roof

\* Avoided Generation Unit: 7FA CT

\* Program Generation Equivilency Factor: 1.00

| (1)  | (2)           | (3)           | (4)<br>UTILITY    | (5)       | (6)       | (7)         | (8)           | (9)           |
|--|---------------|---------------|-------------------|-----------|-----------|-------------|---------------|---------------|
|  | CUMULATIVE    | ADJUSTED      | AVERAGE<br>SYSTEM | AVOIDED   | INCREASED |             | PROGRAM       | PROGRAM       |
|  | TOTAL         | CUMULATIVE    | FUEL              | MARGINAL  | MARGINAL  | REPLACEMENT | KW            | KWH           |
|  | PARTICIPATING | PARTICIPATING | COSTS             | FUEL COST | FUEL COST | FUEL COST   | EFFECTIVENESS | EFFECTIVENESS |
| YEAR                                       | CUSTOMERS     | CUSTOMERS     | (C/KWH)           | (C/KWH)   | (C/KWH)   | (C/KWH)     | FACTOR        | FACTOR        |
| San 19 19 19 19 19 19 19 19 19 19 19 19 19 |               |               |                   |           |           |             |               |               |
| 2010                                       | 7             | 7             | 3.36              | 3.73      | 3.87      | 3.36        | 1             | 1             |
| 2011                                       | 14            | 14            | 3.65              | 3.92      | 3.99      | 3.65        | 1             | 1             |
| 2012                                       | 21            | 21            | 3.93              | 4.21      | 4.24      | 3.93        | 1             | 1             |
| 2013                                       | 28            | 28            | 4.05              | 4.40      | 4.47      | 4.05        | 1             | 1             |
| 2014                                       | 35            | 35            | 4.14              | 4.59      | 4.65      | 4.14        | 1             | 1             |
| 2015                                       | 42            | 42            | 4.34              | 4.83      | 4.96      | 4.34        | 1             | 1             |
| 2016                                       | 49            | 49            | 4.48              | 5.04      | 5.20      | 4.48        | 1             | 1             |
| 2017                                       | 56            | 56            | 4.67              | 5.34      | 5.60      | 4.67        | 1             | 1             |
| 2018                                       | 63            | 63            | 4.86              | 5,53      | 5.91      | 4.85        | 1             | 1             |
| 2019                                       | 70            | 70            | 5.14              | 5.91      | 5.58      | 5.06        | 1             | 1             |

# PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| I. PROGRAM DEMAND SAVINGS AND LINE LOSSES   |   | IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS   |   |  |  |  |
|---|---|---|---|--|--|--|
| (1) CUSTOMER KW REDUCTION AT THE METER  | 0.17 KW /CUST<br>0.18 KW GEN/CUST<br>3.9 %<br>586.9 KWH/CUST/YR<br>3.9 %<br>1.0000<br>0.0 KWH/CUST/YR<br>564.0 KWH/CUST/YR  | (1) BASE YEAR   | . 2018<br>2030<br>. 120.0557 \$/KW<br>0 \$/KW<br>0 \$/KW<br>. 0 %<br>. 10.74022 \$/KW/YR<br>. 2.5 %<br>0 \$/KW/YR |  |  |  |
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM (2) GENERATOR ECONOMIC LIFE (3) T & D ECONOMIC LIFE (4) K FACTOR FOR GENERATION (5) K FACTOR FOR T & D (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1)   | 10 YEARS<br>20 YEARS<br>20 YEARS<br>0.22<br>0.00  | (13) AVOIDED GEN UNIT VARIABLE O & M COSTS (14) GENERATOR VARIABLE O &M COST ESCALATION RATE (15) GENERATOR CAPACITY FACTOR (16) AVOIDED GENERATING UNIT FUEL COST (17) AVOIDED GEN UNIT FUEL ESCALATION RATE (18)* AVOIDED PURCHASE CAPACITY COST PER KW (19)* CAPACITY COST ESCALATION RATE | 0 CENTS/KWH<br>2.5 %<br>15 %<br>3.363149 CENTS/KWH<br>2.5 %<br>0 \$/KW/YR   |  |  |  |
| (1)** UTILITY NONRECURRING COST PER CUSTOMER (2)** UTILITY RECURRING COST PER CUSTOMER (3) UTILITY COST ESCALATION RATE (4) CUSTOMER EQUIPMENT COST (5) CUSTOMER EQUIPMENT ESCALATION RATE (6) CUSTOMER O & M COST (7) CUSTOMER O & M ESCALATION RATE (8)* CUSTOMER TAX CREDIT PER INSTALLATION (9)* CUSTOMER TAX CREDIT ESCALATION RATE (10)* INCREASED SUPPLY COSTS (11)* SUPPLY COSTS ESCALATION RATE (12)* UTILITY DISCOUNT RATE (13)* UTILITY AFUDC RATE (14)* UTILITY RECURRING REBATE/INCENTIVE (15)* UTILITY RECURRING REBATE/INCENTIVE (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 65.17 \$/CUST  0.00 \$/CUST/YR  2.5 %  576.45 \$/CUST  2.5 %  0.00 \$/CUST/YR  2.5 %  270.00 \$/CUST  2.5 %  0.00 \$/CUST/YR  2.5 %  0.00 \$/CUST/YR  2.5 %  8.00 %  0.00 %  0.00 \$/CUST/YR  0.00 \$/CUST/YR  0.00 \$/CUST/YR  0.00 \$/CUST/YR | V. NON-FUEL ENERGY AND DEMAND CHARGES  (1) NON-FUEL COST IN CUSTOMER BILL   | 2.0 %<br>7.98 \$/KW/MO<br>2.5 %   |  |  |  |

<sup>\*</sup> SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

<sup>\*\*</sup> NONRECURRING & RECURRING COSTS IN INPUTS III.(1 & 2) DO NOT INCLUDE CUSTOMER REBATES PAID BY THE UTILITY. UTILITY REBATES ARE INPUT IN III.(14 & 15).

# PROGRAM: Commercial Energy Efficiency Ceiling Insulation

\* Avoided Generation Unit:

7FA CT

\* Program Generation Equivilency Factor:

1.00

| (1)  | (2)               | (3)           | (4)<br>UTILITY<br>AVERAGE | (5)       | (6)              | (7)         | (8)           | (9)                  |
|------|-------------------|---------------|---------------------------|-----------|------------------|-------------|---------------|----------------------|
|      | <b>CUMULATIVE</b> | ADJUSTED      | SYSTEM                    | AVOIDED   | <b>INCREASED</b> |             | PROGRAM       | PROGRAM              |
|      | TOTAL             | CUMULATIVE    | FUEL                      | MARGINAL  | MARGINAL         | REPLACEMENT | KW            | KWH                  |
|      | PARTICIPATING     | PARTICIPATING | COSTS                     | FUEL COST | FUEL COST        | FUEL COST   | EFFECTIVENESS | <b>EFFECTIVENESS</b> |
| YEAR | CUSTOMERS         | CUSTOMERS     | (C/KWH)                   | (C/KWH)   | (C/KWH)          | (C/KWH)     | FACTOR        | FACTOR               |
|      |                   |               |                           |           |                  |             |               |                      |
| 2010 | 7                 | 7             | 3.36                      | 3.73      | 3.87             | 3.36        | 1             | 1                    |
| 2011 | 14                | 14            | 3.65                      | 3.92      | 3.99             | 3.65        | 1             | 1                    |
| 2012 | 21                | 21            | 3.93                      | 4.21      | 4.24             | 3.93        | I             | 1                    |
| 2013 | 28                | 28            | 4.05                      | 4.40      | 4.47             | 4.05        | 1             | 1                    |
| 2014 | 35                | 35            | 4.14                      | 4.59      | 4.65             | 4.14        | 1             | 1                    |
| 2015 | 42                | 42            | 4.34                      | 4.83      | 4.96             | 4.34        | 1             | 1                    |
| 2016 | 49                | 49            | 4.48                      | 5.04      | 5.20             | 4.48        | 1             | 1                    |
| 2017 | 56                | 56            | 4.67                      | 5.34      | 5.60             | 4.67        | 1             | 1                    |
| 2018 | 63                | 63            | 4.86                      | 5.53      | 5.91             | 4.85        | 1             | 1                    |
| 2019 | 70                | 70            | 5.14                      | 5.91      | 5.58             | 5.06        | 1             | 1                    |

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)     | (2)               | (3)            | (4)                | (5)          | (6)     | (7)             | (8)             | (9)            | (10)            | (11)            | (12)            | (13)       |
|---------|-------------------|----------------|--------------------|--------------|---------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|------------|
|         |                   |                |                    |              |         |                 |                 |                |                 |                 |                 | CUMULATIVE |
|         | <b>INCREASED</b>  | UTILITY        | <b>PARTICIPANT</b> |              |         | <b>AVOIDED</b>  | AVOIDED         | PROGRAM        |                 |                 |                 | DISCOUNTED |
|         | SUPPLY            | <b>PROGRAM</b> | <b>PROGRAM</b>     | <b>OTHER</b> | TOTAL   | <b>GEN UNIT</b> | T & D           | FUEL           | OTHER           | TOTAL           | NET             | NET        |
|         | COSTS             | COSTS          | COSTS              | COSTS        | COSTS   | BENEFITS        | <b>BENEFITS</b> | <b>SAVINGS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS   |
| YEAR    | \$(000)           | \$(000)        | \$(000)            | \$(000)      | \$(000) | \$(000)         | \$(000)         | \$(000)        | \$(000)         | \$(000)         | \$(000)         | \$(000)    |
| 2       |                   |                |                    |              |         |                 |                 |                |                 |                 |                 |            |
| 2010    | 0.000             | 3.006          | 18.000             | 0.000        | 21.006  | 0.000           | 0.000           | 0.186          | 0.000           | 0.186           | (20.820)        | (20.820)   |
| 2011    | 0.000             | 3.082          | 18.450             | 0.000        | 21.532  | 0.000           | 0.000           | 0.588          | 0.000           | 0.588           | (20.944)        | (40.213)   |
| 2012    | 0.000             | 3.159          | 18.911             | 0.000        | 22.070  | 0.000           | 0.000           | 1.052          | 0.000           | 1.052           | (21.018)        | (58.233)   |
| 2013    | 0.000             | 3.238          | 19.384             | 0.000        | 22.622  | 0.000           | 0.000           | 1.538          | 0.000           | 1.538           | (21.084)        | (74.970)   |
| 2014    | 0.000             | 3.319          | 19.869             | 0.000        | 23.187  | 0.000           | 0.000           | 2.061          | 0.000           | 2.061           | (21.127)        | (90.498)   |
| 2015    | 0.000             | 3.401          | 20.365             | 0.000        | 23.767  | 0.000           | 0.000           | 2.652          | 0.000           | 2.652           | (21.115)        | (104.869)  |
| 2016    | 0.000             | 3.487          | 20.874             | 0.000        | 24.361  | 0.000           | 0.000           | 3.272          | 0.000           | 3.272           | (21.089)        | (118.158)  |
| 2017    | 0.000             | 3.574          | 21.396             | 0.000        | 24.970  | 0.000           | 0.000           | 4.000          | 0.000           | 4.000           | (20.970)        | (130.394)  |
| 2018    | 0.000             | 3.663          | 21.931             | 0.000        | 25.594  | 3.827           | 0.000           | 4.696          | 0.000           | 8.523           | (17.071)        | (139.617)  |
| 2019    | 0.000             | 3.755          | 22.480             | 0.000        | 26.234  | 3.938           | 0.000           | 5.604          | 0.000           | 9.542           | (16.692)        | (147.967)  |
|         | to the control of |                |                    |              |         |                 |                 |                |                 |                 |                 |            |
| NOMINAL | 0.000             | 33.682         | 201.661            | 0.000        | 235.343 | 7.765           | 0.000           | 25.648         | 0.000           | 33.413          | (201.930)       |            |
|         |                   |                |                    |              |         |                 |                 |                |                 |                 |                 |            |
| NPV     | 0.000             | 24.032         | 143.882            | 0.000        | 167.914 | 4.037           | 0.000           | 15.909         | 0.000           | 19.946          | (147.967)       |            |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]: 0.12

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)     | (2)              | (3)     | (4)                | (5)     | (6)     | (7)      | (8)      | (9)            | (10)     | (11)     | (12)      | (13)       |
|---------|------------------|---------|--------------------|---------|---------|----------|----------|----------------|----------|----------|-----------|------------|
|         |                  |         |                    |         |         |          |          |                |          |          |           | CUMULATIVE |
|         | <b>INCREASED</b> | UTILITY | <b>PARTICIPANT</b> |         |         | AVOIDED  | AVOIDED  | <b>PROGRAM</b> |          |          |           | DISCOUNTED |
|         | SUPPLY           | PROGRAM | PROGRAM            | OTHER   | TOTAL   | GEN UNIT | T & D    | FUEL           | OTHER    | TOTAL    | NET       | NET        |
|         | COSTS            | COSTS   | COSTS              | COSTS   | COSTS   | BENEFITS | BENEFITS | SAVINGS        | BENEFITS | BENEFITS | BENEFITS  | BENEFITS   |
| YEAR    | \$(000)          | \$(000) | \$(000)            | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)        | \$(000)  | \$(000)  | \$(000)   | \$(000)    |
|         |                  |         |                    |         |         |          |          |                |          |          |           |            |
| 2010    | 0.000            | 0.113   | 15.509             | 0.000   | 15.622  | 0.000    | 0.000    | 0.007          | 0.000    | 0.007    | (15.615)  | (15.615)   |
| 2011    | 0.000            | 0.116   | 15.897             | 0.000   | 16.012  | 0.000    | 0.000    | 0.022          | 0.000    | 0.022    | (15.990)  | (30.420)   |
| 2012    | 0.000            | 0.119   | 16.294             | 0.000   | 16.412  | 0.000    | 0.000    | 0.039          | 0.000    | 0.039    | (16.373)  | (44.458)   |
| 2013    | 0.000            | 0.121   | 16.701             | 0.000   | 16.823  | 0.000    | 0.000    | 0.058          | 0.000    | 0.058    | (16.765)  | (57.766)   |
| 2014    | 0.000            | 0.125   | 17.119             | 0.000   | 17.243  | 0.000    | 0.000    | 0.077          | 0.000    | 0.077    | (17.166)  | (70.384)   |
| 2015    | 0.000            | 0.128   | 17.547             | 0.000   | 17.674  | 0.000    | 0.000    | 0.099          | 0.000    | 0.099    | (17.575)  | (82.345)   |
| 2016    | 0.000            | 0.131   | 17.986             | 0.000   | 18.116  | 0.000    | 0.000    | 0.123          | 0.000    | 0.123    | (17.994)  | (93.684)   |
| 2017    | 0.000            | 0.134   | 18.435             | 0.000   | 18.569  | 0.000    | 0.000    | 0.150          | 0.000    | 0.150    | (18.419)  | (104.431)  |
| 2018    | 0.000            | 0.137   | 18.896             | 0.000   | 19.033  | 0.179    | 0.000    | 0.176          | 0.000    | 0.355    | (18.678)  | (114.523)  |
| 2019    | 0.000            | 0.141   | 19.368             | 0.000   | 19.509  | 0.184    | 0.000    | 0.210          | 0.000    | 0.394    | (19.115)  | (124.085)  |
|         |                  |         |                    |         |         |          |          |                |          |          |           |            |
| NOMINAL | 0.000            | 1.264   | 173.752            | 0.000   | 175.015 | 0.363    | 0.000    | 0.962          | 0.000    | 1.325    | (173.690) |            |
|         |                  |         |                    |         |         |          |          |                |          |          |           |            |
| NPV     | 0.000            | 0.902   | 123.969            | 0.000   | 124.871 | 0.189    | 0.000    | 0.597          | 0.000    | 0.786    | (124.085) |            |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]: 0.01

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Single Family Survey Walk Through

| (1)     | (2)       | (3)       | (4)         | (5)     | (6)       | (7)      | (8)      | (9)       | (10)     | (11)      | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|-----------|-------------|---------|-----------|----------|----------|-----------|----------|-----------|-----------------|--------------------|
|         | INCREASED | UTILITY   | PARTICIPANT |         |           | AVOIDED  | AVOIDED  | PROGRAM   |          |           |                 | DISCOUNTED         |
|         | SUPPLY    | PROGRAM   | PROGRAM     | OTHER   | TOTAL     | GEN UNIT | T & D    | FUEL      | OTHER    | TOTAL     | NET             | NET                |
|         | COSTS     | COSTS     | COSTS       | COSTS   | COSTS     | BENEFITS | BENEFITS | SAVINGS   | BENEFITS | BENEFITS  | <b>BENEFITS</b> | <b>BENEFITS</b>    |
| YEAR    | \$(000)   | \$(000)   | \$(000)     | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000)   | \$(000)  | \$(000)   | \$(000)         | \$(000)            |
|         |           |           |             |         |           |          |          |           |          |           |                 |                    |
| 2010    | 0.000     | 442.109   | 0.000       | 0.000   | 442.109   | 0.000    | 0.000    | 10.269    | 0.000    | 10.269    | (431.840)       | (431.840)          |
| 2011    | 0.000     | 453.161   | 0.000       | 0.000   | 453.161   | 0.000    | 0.000    | 32.418    | 0.000    | 32.418    | (420.743)       | (821.417)          |
| 2012    | 0.000     | 464.490   | 0.000       | 0.000   | 464.490   | 0.000    | 0.000    | 58.010    | 0.000    | 58.010    | (406.480)       | (1,169.908)        |
| 2013    | 0.000     | 476.103   | 0.000       | 0.000   | 476.103   | 0.000    | 0.000    | 84.820    | 0.000    | 84.820    | (391.283)       | (1,480.521)        |
| 2014    | 0.000     | 488.005   | 0.000       | 0.000   | 488.005   | 0.000    | 0.000    | 113.665   | 0.000    | 113.665   | (374.340)       | (1,755.672)        |
| 2015    | 0.000     | 500.205   | 0.000       | 0.000   | 500.205   | 0.000    | 0.000    | 146.287   | 0.000    | 146.287   | (353.918)       | (1,996.543)        |
| 2016    | 0.000     | 512.710   | 0.000       | 0.000   | 512.710   | 0.000    | 0.000    | 180.512   | 0.000    | 180.512   | (332.198)       | (2,205.884)        |
| 2017    | 0.000     | 525.528   | 0.000       | 0.000   | 525.528   | 0.000    | 0.000    | 220.678   | 0.000    | 220.678   | (304.850)       | (2,383.761)        |
| 2018    | 0.000     | 538.666   | 0.000       | 0.000   | 538.666   | 0.000    | 0.000    | 259.046   | 0.000    | 259.046   | (279.620)       | (2,534.831)        |
| 2019    | 0.000     | 552.133   | 0.000       | 0.000   | 552.133   | 0.000    | 0.000    | 309.148   | 0.000    | 309.148   | (242.985)       | (2,656.384)        |
|         |           |           |             |         |           |          |          |           |          |           |                 |                    |
| NOMINAL | 0.000     | 4,953.112 | 0.000       | 0.000   | 4,953.112 | 0.000    | 0.000    | 1,414.854 | 0.000    | 1,414.854 | (3,538.258)     |                    |
| NPV     | 0.000     | 3,533.968 | 0.000       | 0.000   | 3,533.968 | 0.000    | 0.000    | 877.583   | 0.000    | 877.583   | (2,656.384)     |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Single Family Survey Video & DVDs

| (1)            | (2)              | (3)     | (4)         | (5)          | (6)     | (7)             | (8)      | (9)            | (10)            | (11)            | (12)            | (13)<br>CUMULATIVE |
|----------------|------------------|---------|-------------|--------------|---------|-----------------|----------|----------------|-----------------|-----------------|-----------------|--------------------|
|                | <b>INCREASED</b> | UTILITY | PARTICIPANT |              |         | AVOIDED         | AVOIDED  | PROGRAM        |                 |                 |                 | DISCOUNTED         |
|                | SUPPLY           | PROGRAM | PROGRAM     | <b>OTHER</b> | TOTAL   | <b>GEN UNIT</b> | T & D    | FUEL           | OTHER           | TOTAL           | NET             | NET                |
|                | COSTS            | COSTS   | COSTS       | COSTS        | COSTS   | <b>BENEFITS</b> | BENEFITS | <b>SAVINGS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b>    |
| YEAR           | \$(000)          | \$(000) | \$(000)     | \$(000)      | \$(000) | \$(000)         | \$(000)  | \$(000)        | \$(000)         | \$(000)         | \$(000)         | \$(000)            |
|                |                  |         |             |              |         |                 |          |                |                 |                 |                 |                    |
| 2010           | 0.000            | 78.309  | 0.000       | 0.000        | 78.309  | 0.000           | 0.000    | 4.614          | 0.000           | 4.614           | (73.695)        | (73.695)           |
| 2011           | 0.000            | 80.267  | 0.000       | 0.000        | 80.267  | 0.000           | 0.000    | 14.567         | 0.000           | 14.567          | (65.700)        | (134.528)          |
| 2012           | 0.000            | 82.273  | 0.000       | 0.000        | 82.273  | 0.000           | 0.000    | 26.067         | 0.000           | 26.067          | (56.206)        | (182.716)          |
| 2013           | 0.000            | 84.330  | 0.000       | 0.000        | 84.330  | 0.000           | 0.000    | 38.114         | 0.000           | 38.114          | (46.216)        | (219.404)          |
| 2014           | 0.000            | 86.439  | 0.000       | 0.000        | 86.439  | 0.000           | 0.000    | 51.076         | 0.000           | 51.076          | (35.363)        | (245.396)          |
| 2015           | 0.000            | 88.600  | 0.000       | 0.000        | 88.600  | 0.000           | 0.000    | 65.735         | 0.000           | 65.735          | (22.865)        | (260.958)          |
| 2016           | 0.000            | 90.815  | 0.000       | 0.000        | 90.815  | 0.000           | 0.000    | 81.114         | 0.000           | 81.114          | (9.701)         | (267.071)          |
| 2017           | 0.000            | 93.085  | 0.000       | 0.000        | 93.085  | 0.000           | 0.000    | 99.163         | 0.000           | 99.163          | 6.078           | (263.525)          |
| 2018           | 0.000            | 95.412  | 0.000       | 0.000        | 95.412  | 0.000           | 0.000    | 116.403        | 0.000           | 116.403         | 20.991          | (252.184)          |
| 2019           | 0.000            | 97.797  | 0.000       | 0.000        | 97.797  | 0.000           | 0.000    | 138.917        | 0.000           | 138.917         | 41.119          | (231.614)          |
|                |                  |         |             |              |         |                 |          |                |                 |                 |                 |                    |
| <b>NOMINAL</b> | 0.000            | 877.327 | 0.000       | 0.000        | 877.327 | 0.000           | 0.000    | 635.769        | 0.000           | 635.769         | (241.558)       |                    |
| NPV            | 0.000            | 625.959 | 0.000       | 0.000        | 625.959 | 0.000           | 0.000    | 394.345        | 0.000           | 394.345         | (231.614)       |                    |

Discount Rate: 8.00%

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Single Family Survey On Line

| (1)     | (2)               | (3)            | (4)                | (5)          | (6)     | (7)             | (8)      | (9)            | (10)            | (11)                                     | (12)            | (13)            |
|---------|-------------------|----------------|--------------------|--------------|---------|-----------------|----------|----------------|-----------------|--|-----------------|-----------------|
|         |                   |                |                    |              |         |                 |          |                |                 |  |                 | CUMULATIVE      |
|         | <b>INCREASED</b>  | UTILITY        | <b>PARTICIPANT</b> |              |         | AVOIDED         | AVOIDED  | <b>PROGRAM</b> |                 |  |                 | DISCOUNTED      |
|         | SUPPLY            | <b>PROGRAM</b> | <b>PROGRAM</b>     | <b>OTHER</b> | TOTAL   | <b>GEN UNIT</b> | T & D    | FUEL           | OTHER           | TOTAL                                    | NET             | NET             |
|         | COSTS             | COSTS          | COSTS              | COSTS        | COSTS   | <b>BENEFITS</b> | BENEFITS | <b>SAVINGS</b> | <b>BENEFITS</b> | <b>BENEFITS</b>                          | <b>BENEFITS</b> | <b>BENEFITS</b> |
| YEAR    | \$(000)           | \$(000)        | \$(000)            | \$(000)      | \$(000) | \$(000)         | \$(000)  | \$(000)        | \$(000)         | \$(000)                                  | \$(000)         | \$(000)         |
| -       |                   |                |                    |              |         |                 |          |                |                 |  |                 |                 |
| 2010    | 0.000             | 75.687         | 0.000              | 0.000        | 75.687  | 0.000           | 0.000    | 3.354          | 0.000           | 3.354                                    | (72.333)        | (72.333)        |
| 2011    | 0.000             | 77.579         | 0.000              | 0.000        | 77.579  | 0.000           | 0.000    | 10.588         | 0.000           | 10.588                                   | (66.991)        | (134.361)       |
| 2012    | 0.000             | 79.518         | 0.000              | 0.000        | 79.518  | 0.000           | 0.000    | 18.947         | 0.000           | 18.947                                   | (60.571)        | (186.291)       |
| 2013    | 0.000             | 81.506         | 0.000              | 0.000        | 81.506  | 0.000           | 0.000    | 27.704         | 0.000           | 27.704                                   | (53.802)        | (229.001)       |
| 2014    | 0.000             | 83.544         | 0.000              | 0.000        | 83.544  | 0.000           | 0.000    | 37.126         | 0.000           | 37.126                                   | (46.418)        | (263.120)       |
| 2015    | 0.000             | 85.633         | 0.000              | 0.000        | 85.633  | 0.000           | 0.000    | 47.781         | 0.000           | 47.781                                   | (37.852)        | (288.881)       |
| 2016    | 0.000             | 87.774         | 0.000              | 0.000        | 87.774  | 0.000           | 0.000    | 58.959         | 0.000           | 58.959                                   | (28.814)        | (307.039)       |
| 2017    | 0.000             | 89,968         | 0.000              | 0.000        | 89.968  | 0.000           | 0.000    | 72.078         | 0.000           | 72.078                                   | (17.889)        | (317.478)       |
| 2018    | 0.000             | 92.217         | 0.000              | 0.000        | 92.217  | 0.000           | 0.000    | 84.610         | 0.000           | 84.610                                   | (7.607)         | (321.587)       |
| 2019    | 0.000             | 94.522         | 0.000              | 0.000        | 94.522  | 0.000           | 0.000    | 100.975        | 0.000           | 100.975                                  | 6.452           | (318.360)       |
|         | 5 10 No. 10 C 100 |                |                    |              |         |                 |          |                |                 | 100 V 100 100 100 100 100 100 100 100 10 |                 |                 |
| NOMINAL | 0.000             | 847.948        | 0.000              | 0.000        | 847.948 | 0.000           | 0.000    | 462.123        | 0.000           | 462.123                                  | (385.825)       |                 |
|         |                   |                |                    |              |         |                 |          |                |                 |  |                 |                 |
| NPV     | 0.000             | 604.998        | 0.000              | 0.000        | 604.998 | 0.000           | 0.000    | 286.638        | 0.000           | 286.638                                  | (318.360)       |                 |

Discount Rate: 8.00%

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)       | (7)             | (8)      | (9)     | (10)     | (11)            | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|-----------|-----------------|----------|---------|----------|-----------------|-----------------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |           | AVOIDED         | AVOIDED  | PROGRAM |          |                 |                 | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL     |                 | T & D    | FUEL    | OTHER    | TOTAL           | NET             | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS     | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000)   | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)            |
|         |           |         |             |         |           |                 |          |         |          |                 |                 |                    |
| 2010    | 0.000     | 7.481   | 180.685     | 0.000   | 188.165   | 0.000           | 0.000    | 0.796   | 0.000    | 0.796           | (187.369)       | (187.369)          |
| 2011    | 0.000     | 7.668   | 185.202     | 0.000   | 192.870   | 0.000           | 0.000    | 2.513   | 0.000    | 2.513           | (190.357)       | (363.626)          |
| 2012    | 0.000     | 7.860   | 189.832     | 0.000   | 197.691   | 0.000           | 0.000    | 4.497   | 0.000    | 4.497           | (193.194)       | (529.259)          |
| 2013    | 0.000     | 8.056   | 194.578     | 0.000   | 202.634   | 0.000           | 0.000    | 6.575   | 0.000    | 6.575           | (196.058)       | (684.896)          |
| 2014    | 0.000     | 8.257   | 199.442     | 0.000   | 207.699   | 0.000           | 0.000    | 8.811   | 0.000    | 8.811           | (198.888)       | (831.085)          |
| 2015    | 0.000     | 8.464   | 204.428     | 0.000   | 212.892   | 0.000           | 0.000    | 11.340  | 0.000    | 11.340          | (201.552)       | (968.258)          |
| 2016    | 0.000     | 8.676   | 209.539     | 0.000   | 218.214   | 0.000           | 0.000    | 13.993  | 0.000    | 13.993          | (204.221)       | (1,096.952)        |
| 2017    | 0.000     | 8.892   | 214.777     | 0.000   | 223.670   | 0.000           | 0.000    | 17.107  | 0.000    | 17.107          | (206.563)       | (1,217.479)        |
| 2018    | 0.000     | 9.115   | 220.147     | 0.000   | 229.261   | 23.956          | 0.000    | 20.081  | 0.000    | 44.037          | (185.224)       | (1,317.550)        |
| 2019    | 0.000     | 9.343   | 225.650     | 0.000   | 234.993   | 24.652          | 0.000    | 23.965  | 0.000    | 48.617          | (186.376)       | (1,410.784)        |
|         |           |         |             |         |           |                 |          |         |          | 1.70.00/        | (1.0.10.002)    |                    |
| NOMINAL | 0.000     | 83.811  | 2,024.279   | 0.000   | 2,108.089 | 48.608          | 0.000    | 109.678 | 0.000    | 158.286         | (1,949.803)     |                    |
| NPV     | 0.000     | 59.798  | 1,444.291   | 0.000   | 1,504.089 | 25.275          | 0.000    | 68.029  | 0.000    | 93.304          | (1,410.784)     |                    |

Discount Rate: 8.00%

| (1)     | (2)       | (3)            | (4)         | (5)     | (6)             | (7)             | (8)             | (9)     | (10)            | (11)     | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|----------------|-------------|---------|-----------------|-----------------|-----------------|---------|-----------------|----------|-----------------|--------------------|
|         | INCREASED | UTILITY        | PARTICIPANT |         |                 | AVOIDED         | AVOIDED         | PROGRAM |                 |          |                 | DISCOUNTED         |
|         | SUPPLY    | <b>PROGRAM</b> | PROGRAM     | OTHER   | TOTAL           | <b>GEN UNIT</b> | T & D           | FUEL    | OTHER           | TOTAL    | NET             | NET                |
|         | COSTS     | COSTS          | COSTS       | COSTS   | COSTS           | <b>BENEFITS</b> | <b>BENEFITS</b> | SAVINGS | <b>BENEFITS</b> | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b>    |
| YEAR    | \$(000)   | \$(000)        | \$(000)     | \$(000) | \$(000)         | \$(000)         | \$(000)         | \$(000) | \$(000)         | \$(000)  | \$(000)         | \$(000)            |
|         |           |                |             |         |                 |                 |                 |         |                 |          |                 |                    |
| 2010    | 0.000     | 17.954         | 348.827     | 0.000   | 366.781         | 0.000           | 0.000           | 1.631   | 0.000           | 1.631    | (365.150)       | (365.150)          |
| 2011    | 0.000     | 18.403         | 357.548     | 0.000   | 375.951         | 0.000           | 0.000           | 5.149   | 0.000           | 5.149    | (370.801)       | (708.484)          |
| 2012    | 0.000     | 18.863         | 366.486     | 0.000   | 385.349         | 0.000           | 0.000           | 9.215   | 0.000           | 9.215    | (376.135)       | (1,030.959)        |
| 2013    | 0.000     | 19.335         | 375.649     | 0.000   | 394.983         | 0.000           | 0.000           | 13.473  | 0.000           | 13.473   | (381.510)       | (1,333.814)        |
| 2014    | 0.000     | 19.818         | 385.040     | 0.000   | 404.858         | 0.000           | 0.000           | 18.055  | 0.000           | 18.055   | (386.802)       | (1,618.125)        |
| 2015    | 0.000     | 20.313         | 394.666     | 0.000   | 414.979         | 0.000           | 0.000           | 23.237  | 0.000           | 23.237   | (391.742)       | (1,884.738)        |
| 2016    | 0.000     | 20.821         | 404.532     | 0.000   | 425.354         | 0.000           | 0.000           | 28.674  | 0.000           | 28.674   | (396.680)       | (2,134.714)        |
| 2017    | 0.000     | 21.342         | 414.646     | 0.000   | 435.987         | 0.000           | 0.000           | 35.054  | 0.000           | 35.054   | (400.934)       | (2,368.655)        |
| 2018    | 0.000     | 21.875         | 425.012     | 0.000   | 446.887         | 53.073          | 0.000           | 41.148  | 0.000           | 94.221   | (352.666)       | (2,559.190)        |
| 2019    | 0.000     | 22.422         | 435.637     | 0.000   | 458.059         | 54.613          | 0.000           | 49.107  | 0.000           | 103.720  | (354.339)       | (2,736.447)        |
|         |           |                |             |         |                 | ·               |                 |         |                 |          |                 |                    |
| NOMINAL | 0.000     | 201.146        | 3,908.043   | 0.000   | 4,109.189       | 107.686         | 0.000           | 224.744 | 0.000           | 332.430  | (3,776.759)     |                    |
|         |           |                |             |         | a movenu nomine |                 |                 |         |                 |          |                 |                    |
| NPV     | 0.000     | 143.515        | 2,788.327   | 0.000   | 2,931.842       | 55.994          | 0.000           | 139.400 | 0.000           | 195.394  | (2,736.447)     |                    |

Discount Rate: 8.00%

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)       | (7)      | (8)      | .(9)    | (10)     | (11)     | (12)        | (13)        |
|---------|-----------|---------|-------------|---------|-----------|----------|----------|---------|----------|----------|-------------|-------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |           | AVOIDED  | AVOIDED  | PROGRAM |          |          |             | CUMULATIVE  |
|         |           |         |             | 0.771.  | mom       |          |          |         | OTHER    | TOT 11   | NIET        |             |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL     | GEN UNIT | T & D    | FUEL    | OTHER    | TOTAL    | NET         | NET         |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS     | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS    | BENEFITS    |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)     |
|         |           |         |             |         |           |          |          |         |          |          |             |             |
| 2010    | 0.000     | 27.430  | 408.507     | 0.000   | 435.937   | 0.000    | 0.000    | 1.989   | 0.000    | 1.989    | (433.948)   | (433.948)   |
| 2011    | 0.000     | 28.116  | 418.720     | 0.000   | 446.835   | 0.000    | 0.000    | 6.278   | 0.000    | 6.278    | (440.558)   | (841.872)   |
| 2012    | 0.000     | 28.818  | 429.188     | 0.000   | 458.006   | 0.000    | 0.000    | 11.233  | 0.000    | 11.233   | (446.773)   | (1,224.908) |
| 2013    | 0.000     | 29.539  | 439.917     | 0.000   | 469.456   | 0.000    | 0.000    | 16.425  | 0.000    | 16.425   | (453.031)   | (1,584.538) |
| 2014    | 0.000     | 30.277  | 450.915     | 0.000   | 481.193   | 0.000    | 0.000    | 22.011  | 0.000    | 22.011   | (459.182)   | (1,922.051) |
| 2015    | 0.000     | 31.034  | 462.188     | 0.000   | 493.222   | 0.000    | 0.000    | 28.328  | 0.000    | 28.328   | (464.895)   | (2,238.450) |
| 2016    | 0.000     | 31.810  | 473.743     | 0.000   | 505.553   | 0.000    | 0.000    | 34.955  | 0.000    | 34.955   | (470.598)   | (2,535.006) |
| 2017    | 0.000     | 32.605  | 485.586     | 0.000   | 518.192   | 0.000    | 0.000    | 42.734  | 0.000    | 42.734   | (475.458)   | (2,812.432) |
| 2018    | 0.000     | 33.421  | 497.726     | 0.000   | 531.147   | 60.813   | 0.000    | 50.163  | 0.000    | 110.976  | (420.171)   | (3,039.437) |
| 2019    | 0.000     | 34.256  | 510.169     | 0.000   | 544.425   | 62.577   | 0.000    | 59.865  | 0.000    | 122.443  | (421.982)   | (3,250.533) |
|         |           |         |             |         |           |          |          |         |          |          |             |             |
| NOMINAL | 0.000     | 307.307 | 4,576.660   | 0.000   | 4,883.967 | 123.390  | 0.000    | 273.981 | 0.000    | 397.371  | (4,486.595) |             |
| NPV     | 0.000     | 219.259 | 3,265.375   | 0.000   | 3,484.633 | 64.159   | 0.000    | 169.941 | 0.000    | 234.100  | (3,250.533) |             |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)       | (3)       | (4)         | (5)     | (6)        | (7)      | (8)      | (9)     | (10)     | (11)      | (12)         | (13)<br>CUMULATIVE |
|---------|-----------|-----------|-------------|---------|------------|----------|----------|---------|----------|-----------|--------------|--------------------|
|         | INCREASED | UTILITY   | PARTICIPANT |         |            | AVOIDED  | AVOIDED  | PROGRAM |          |           |              | DISCOUNTED         |
|         | SUPPLY    | PROGRAM   | PROGRAM     | OTHER   | TOTAL      |          | T & D    | FUEL    | OTHER    | TOTAL     | NET          | NET                |
|         | COSTS     | COSTS     | COSTS       | COSTS   | COSTS      | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS  | BENEFITS     | BENEFITS           |
| YEAR    | \$(000)   | \$(000)   | \$(000)     | \$(000) | \$(000)    | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)   | \$(000)      | \$(000)            |
| ILAK    | \$(000)   | \$(000)   | \$(000)     | \$(000) | \$(000)    | \$(000)  | \$(000)  | Φ(000)  | \$(000)  | Φ(000)    | 4(000)       | 4(5-5)             |
| 2010    | 0.000     | 95.506    | 1,007.053   | 0.000   | 1,102.558  | 0.000    | 0.000    | 5.438   | 0.000    | 5.438     | (1,097.120)  | (1,097.120)        |
| 2011    | 0.000     | 97.893    | 1,032.229   | 0.000   | 1,130.122  | 0.000    | 0.000    | 17.167  | 0.000    | 17.167    | (1,112.955)  | (2,127.634)        |
| 2012    | 0.000     | 100.341   | 1,058.035   | 0.000   | 1,158.375  | 0.000    | 0.000    | 30.720  | 0.000    | 30.720    | (1,127.656)  | (3,094.417)        |
| 2013    | 0.000     | 102.849   | 1,084.485   | 0.000   | 1,187.335  | 0.000    | 0.000    | 44.917  | 0.000    | 44.917    | (1,142.418)  | (4,001.305)        |
| 2014    | 0.000     | 105.420   | 1,111.598   | 0.000   | 1,217.018  | 0.000    | 0.000    | 60.192  | 0.000    | 60.192    | (1,156.826)  | (4,851.607)        |
| 2015    | 0.000     | 108.056   | 1,139.388   | 0.000   | 1,247.443  | 0.000    | 0.000    | 77.467  | 0.000    | 77.467    | (1,169.976)  | (5,647.873)        |
| 2016    | 0.000     | 110.757   | 1,167.872   | 0.000   | 1,278.629  | 0.000    | 0.000    | 95.591  | 0.000    | 95.591    | (1,183.039)  | (6,393.388)        |
| 2017    | 0.000     | 113.526   | 1,197.069   | 0.000   | 1,310.595  | 0.000    | 0.000    | 116.861 | 0.000    | 116.861   | (1,193.734)  | (7,089.921)        |
| 2018    | 0.000     | 116.364   | 1,226.996   | 0.000   | 1,343.360  | 169.391  | 0.000    | 137.179 | 0.000    | 306.570   | (1,036.790)  | (7,650.066)        |
| 2019    | 0.000     | 119,273   | 1,257.671   | 0.000   | 1,376.944  | 174.307  | 0.000    | 163.711 | 0.000    | 338.017   | (1,038.927)  | (8,169.788)        |
|         |           |           |             |         |            |          |          |         |          |           |              |                    |
| NOMINAL | 0.000     | 1,069.986 | 11,282.394  | 0.000   | 12,352.380 | 343.698  | 0.000    | 749.242 | 0.000    | 1,092.939 | (11,259.441) |                    |
|         |           |           |             |         |            |          |          |         |          |           |              |                    |
| NPV     | 0.000     | 763.418   | 8,049.811   | 0.000   | 8,813.229  | 178.713  | 0.000    | 464.728 | 0.000    | 643.441   | (8,169.788)  |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)       | (7)      | (8)      | (9)     | (10)     | (11)     | (12)        | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|-----------|----------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |           | AVOIDED  | AVOIDED  | PROGRAM |          |          |             | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL     | GEN UNIT | T & D    | FUEL    | OTHER    | TOTAL    | NET         | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS     | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS    | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |           |         |             |         |           |          |          |         |          |          |             |                    |
| 2010    | 0.000     | 22.443  | 143.273     | 0.000   | 165.715   | 0.000    | 0.000    | 0.726   | 0.000    | 0.726    | (164.989)   | (164.989)          |
| 2011    | 0.000     | 23.004  | 146.855     | 0.000   | 169.858   | 0.000    | 0.000    | 2.293   | 0.000    | 2.293    | (167.566)   | (320.143)          |
| 2012    | 0.000     | 23.579  | 150.526     | 0.000   | 174.105   | 0.000    | 0.000    | 4.102   | 0.000    | 4.102    | (170.002)   | (465.892)          |
| 2013    | 0.000     | 24.168  | 154.289     | 0.000   | 178.457   | 0.000    | 0.000    | 5.998   | 0.000    | 5.998    | (172.459)   | (602.796)          |
| 2014    | 0.000     | 24.772  | 158.146     | 0.000   | 182.919   | 0.000    | 0.000    | 8.038   | 0.000    | 8.038    | (174.880)   | (731.338)          |
| 2015    | 0.000     | 25.392  | 162.100     | 0.000   | 187.492   | 0.000    | 0.000    | 10.345  | 0.000    | 10.345   | (177.146)   | (851.901)          |
| 2016    | 0.000     | 26.027  | 166.153     | 0.000   | 192.179   | 0.000    | 0.000    | 12.766  | 0.000    | 12.766   | (179.413)   | (964.962)          |
| 2017    | 0.000     | 26.677  | 170.306     | 0.000   | 196.984   | 0.000    | 0.000    | 15.606  | 0.000    | 15.606   | (181.377)   | (1,070.794)        |
| 2018    | 0.000     | 27.344  | 174.564     | 0.000   | 201.908   | 21.008   | 0.000    | 18.319  | 0.000    | 39.327   | (162.581)   | (1,158.631)        |
| 2019    | 0.000     | 28.028  | 178.928     | 0.000   | 206.956   | 21.618   | 0.000    | 21.863  | 0.000    | 43.480   | (163.475)   | (1,240.409)        |
|         |           |         |             |         |           |          |          |         |          |          |             |                    |
| NOMINAL | 0.000     | 251.433 | 1,605.140   | 0.000   | 1,856.573 | 42.626   | 0.000    | 100.057 | 0.000    | 142.683  | (1,713.890) |                    |
| NPV     | 0.000     | 179.393 | 1,145.242   | 0.000   | 1,324.635 | 22.164   | 0.000    | 62.062  | 0.000    | 84.226   | (1,240.409) |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Multi Family Survey Walk Through

| (1)     | (2)       | (3)       | (4)         | (5)          | (6)       | (7)             | (8)      | (9)     | (10)     | (11)     | (12)        | (13)<br>CUMULATIVE |
|---------|-----------|-----------|-------------|--------------|-----------|-----------------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED | UTILITY   | PARTICIPANT |              |           | AVOIDED         | AVOIDED  | PROGRAM |          |          |             | DISCOUNTED         |
|         | SUPPLY    | PROGRAM   | PROGRAM     | <b>OTHER</b> | TOTAL     | <b>GEN UNIT</b> | T & D    | FUEL    | OTHER    | TOTAL    | NET         | NET                |
|         | COSTS     | COSTS     | COSTS       | COSTS        | COSTS     | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS    | BENEFITS           |
| YEAR    | \$(000)   | \$(000)   | \$(000)     | \$(000)      | \$(000)   | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |           |           |             |              |           |                 |          |         |          |          |             |                    |
| 2010    | 0.000     | 172.501   | 0.000       | 0.000        | 172.501   | 0.000           | 0.000    | 3.348   | 0.000    | 3.348    | (169.153)   | (169.153)          |
| 2011    | 0.000     | 176.813   | 0.000       | 0.000        | 176.813   | 0.000           | 0.000    | 10.569  | 0.000    | 10.569   | (166.245)   | (323.083)          |
| 2012    | 0.000     | 181.234   | 0.000       | 0.000        | 181.234   | 0.000           | 0.000    | 18.912  | 0.000    | 18.912   | (162.321)   | (462.248)          |
| 2013    | 0.000     | 185.765   | 0.000       | 0.000        | 185.765   | 0.000           | 0.000    | 27.653  | 0.000    | 27.653   | (158.112)   | (587.762)          |
| 2014    | 0.000     | 190.409   | 0.000       | 0.000        | 190.409   | 0.000           | 0.000    | 37.057  | 0.000    | 37.057   | (153.352)   | (700.480)          |
| 2015    | 0.000     | 195.169   | 0.000       | 0.000        | 195.169   | 0.000           | 0.000    | 47.692  | 0.000    | 47.692   | (147.477)   | (800.851)          |
| 2016    | 0.000     | 200.048   | 0.000       | 0.000        | 200.048   | 0.000           | 0.000    | 58.850  | 0.000    | 58.850   | (141.198)   | (889.829)          |
| 2017    | 0.000     | 205.049   | 0.000       | 0.000        | 205.049   | 0.000           | 0.000    | 71.945  | 0.000    | 71.945   | (133.104)   | (967.494)          |
| 2018    | 0.000     | 210.176   | 0.000       | 0.000        | 210.176   | 0.000           | 0.000    | 84.454  | 0.000    | 84.454   | (125.722)   | (1,035.418)        |
| 2019    | 0.000     | 215.430   | 0.000       | 0.000        | 215.430   | 0.000           | 0.000    | 100.788 | 0.000    | 100.788  | (114.642)   | (1,092.768)        |
|         |           |           |             |              |           |                 |          | 161.060 | 0.000    | 461.260  | (1 451 225) |                    |
| NOMINAL | 0.000     | 1,932.594 | 0.000       | 0.000        | 1,932.594 | 0.000           | 0.000    | 461.268 | 0.000    | 461.268  | (1,471.327) |                    |
| NPV     | 0.000     | 1,378.876 | 0.000       | 0.000        | 1,378.876 | 0.000           | 0.000    | 286.108 | 0.000    | 286.108  | (1,092.768) |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)     | (2)              | (3)     | (4)         | (5)          | (6)     | (7)             | (8)             | (9)                 | (10)            | (11)            | (12)     | (13)<br>CUMULATIVE |
|---------|------------------|---------|-------------|--------------|---------|-----------------|-----------------|---------------------|-----------------|-----------------|----------|--------------------|
|         | <b>INCREASED</b> | UTILITY | PARTICIPANT |              |         | AVOIDED         | AVOIDED         | <b>PROGRAM</b>      |                 |                 |          | DISCOUNTED         |
|         | SUPPLY           | PROGRAM | PROGRAM     | <b>OTHER</b> | TOTAL   | <b>GEN UNIT</b> | T & D           | FUEL                | OTHER           | TOTAL           | NET      | NET                |
|         | COSTS            | COSTS   | COSTS       | COSTS        | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | SAVINGS             | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS | BENEFITS           |
| YEAR    | \$(000)          | \$(000) | \$(000)     | \$(000)      | \$(000) | \$(000)         | \$(000)         | \$(000)             | \$(000)         | \$(000)         | \$(000)  | \$(000)            |
|         |                  |         |             |              |         |                 |                 |                     |                 |                 |          |                    |
| 2010    | 0.000            | 25.997  | 0.000       | 0.000        | 25.997  | 0.000           | 0.000           | 1.509               | 0.000           | 1.509           | (24.488) | (24.488)           |
| 2011    | 0.000            | 26.647  | 0.000       | 0.000        | 26.647  | 0.000           | 0.000           | 4.764               | 0.000           | 4.764           | (21.883) | (44.750)           |
| 2012    | 0.000            | 27.313  | 0.000       | 0.000        | 27.313  | 0.000           | 0.000           | 8.525               | 0.000           | 8.525           | (18.788) | (60.858)           |
| 2013    | 0.000            | 27.996  | 0.000       | 0.000        | 27.996  | 0.000           | 0.000           | 12.465              | 0.000           | 12.465          | (15.531) | (73.187)           |
| 2014    | 0.000            | 28.696  | 0.000       | 0.000        | 28.696  | 0.000           | 0.000           | 16.704              | 0.000           | 16.704          | (11.992) | (82.001)           |
| 2015    | 0.000            | 29.413  | 0.000       | 0.000        | 29.413  | 0.000           | 0.000           | 21.497              | 0.000           | 21.497          | (7.916)  | (87.389)           |
| 2016    | 0.000            | 30.148  | 0.000       | 0.000        | 30.148  | 0.000           | 0.000           | 26.527              | 0.000           | 26.527          | (3.622)  | (89.671)           |
| 2017    | 0.000            | 30.902  | 0.000       | 0.000        | 30.902  | 0.000           | 0.000           | 32.429              | 0.000           | 32.429          | 1.527    | (88.780)           |
| 2018    | 0.000            | 31.675  | 0.000       | 0.000        | 31.675  | 0.000           | 0.000           | 38.068              | 0.000           | 38.068          | 6.393    | (85.326)           |
| 2019    | 0.000            | 32.467  | 0.000       | 0.000        | 32.467  | 0.000           | 0.000           | 45.430              | 0.000           | 45.430          | 12.964   | (78.840)           |
|         |                  |         |             |              |         |                 |                 |                     |                 |                 |          |                    |
| NOMINAL | 0.000            | 291.253 | 0.000       | 0.000        | 291.253 | 0.000           | 0.000           | 207.918             | 0.000           | 207.918         | (83.335) |                    |
|         |                  |         |             |              |         |                 |                 | W 1055 F 38 - 53 57 | 027702702702    |                 |          |                    |
| NPV     | 0.000            | 207.804 | 0.000       | 0.000        | 207.804 | 0.000           | 0.000           | 128.964             | 0.000           | 128.964         | (78.840) |                    |

Discount Rate:

8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Multi Family Survey On Line

| (1)     | (2)       | (3)            | (4)         | (5)     | (6)     | (7)             | (8)      | (9)     | (10)     | (11)     | (12)      | (13)       |
|---------|-----------|----------------|-------------|---------|---------|-----------------|----------|---------|----------|----------|-----------|------------|
|         |           |                |             |         |         |                 |          |         |          |          |           | CUMULATIVE |
|         | INCREASED | UTILITY        | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM |          |          |           | DISCOUNTED |
|         | SUPPLY    | <b>PROGRAM</b> | PROGRAM     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D    | FUEL    | OTHER    | TOTAL    | NET       | NET        |
|         | COSTS     | COSTS          | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS   |
| YEAR    | \$(000)   | \$(000)        | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)    |
|         |           |                |             |         |         |                 |          |         |          |          |           |            |
| 2010    | 0.000     | 26.960         | 0.000       | 0.000   | 26.960  | 0.000           | 0.000    | 1.098   | 0.000    | 1.098    | (25.862)  | (25.862)   |
| 2011    | 0.000     | 27.634         | 0.000       | 0.000   | 27.634  | 0.000           | 0.000    | 3.466   | 0.000    | 3.466    | (24.168)  | (48.239)   |
| 2012    | 0.000     | 28.324         | 0.000       | 0.000   | 28.324  | 0.000           | 0.000    | 6.202   | 0.000    | 6.202    | (22.123)  | (67.206)   |
| 2013    | 0.000     | 29.033         | 0.000       | 0.000   | 29.033  | 0.000           | 0.000    | 9.068   | 0.000    | 9.068    | (19.964)  | (83.054)   |
| 2014    | 0.000     | 29.758         | 0.000       | 0.000   | 29.758  | 0.000           | 0.000    | 12.152  | 0.000    | 12.152   | (17.606)  | (95.995)   |
| 2015    | 0.000     | 30.502         | 0.000       | 0.000   | 30.502  | 0.000           | 0.000    | 15.640  | 0.000    | 15.640   | (14.863)  | (106.111)  |
| 2016    | 0.000     | 31.265         | 0.000       | 0.000   | 31.265  | 0.000           | 0.000    | 19.298  | 0.000    | 19.298   | (11.966)  | (113.652)  |
| 2017    | 0.000     | 32.046         | 0.000       | 0.000   | 32.046  | 0.000           | 0.000    | 23.593  | 0.000    | 23.593   | (8.454)   | (118.584)  |
| 2018    | 0.000     | 32.848         | 0.000       | 0.000   | 32.848  | 0.000           | 0.000    | 27.695  | 0.000    | 27.695   | (5.153)   | (121.368)  |
| 2019    | 0.000     | 33.669         | 0.000       | 0.000   | 33.669  | 0.000           | 0.000    | 33.051  | 0.000    | 33.051   | (0.618)   | (121.677)  |
|         |           |                |             |         |         |                 |          |         |          |          |           |            |
| NOMINAL | 0.000     | 302.038        | 0.000       | 0.000   | 302.038 | 0.000           | 0.000    | 151.262 | 0.000    | 151.262  | (150.777) |            |
|         |           |                |             |         |         |                 |          |         |          |          |           |            |
| NPV     | 0.000     | 215.500        | 0.000       | 0.000   | 215.500 | 0.000           | 0.000    | 93.822  | 0.000    | 93.822   | (121.677) |            |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Lighting Program (CFL)

| (1)     | (2)              | (3)            | (4)                | (5)     | (6)     | (7)             | (8)            | (9)            | (10)     | (11)     | (12)     | (13)<br>CUMULATIVE |
|---------|------------------|----------------|--------------------|---------|---------|-----------------|----------------|----------------|----------|----------|----------|--------------------|
|         | <b>INCREASED</b> | UTILITY        | <b>PARTICIPANT</b> |         |         | <b>AVOIDED</b>  | <b>AVOIDED</b> | <b>PROGRAM</b> |          |          |          | DISCOUNTED         |
|         | SUPPLY           | <b>PROGRAM</b> | <b>PROGRAM</b>     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D          | FUEL           | OTHER    | TOTAL    | NET      | NET                |
|         | COSTS            | COSTS          | COSTS              | COSTS   | COSTS   | BENEFITS        | BENEFITS       | SAVINGS        | BENEFITS | BENEFITS | BENEFITS | BENEFITS           |
| YEAR    | \$(000)          | \$(000)        | \$(000)            | \$(000) | \$(000) | \$(000)         | \$(000)        | \$(000)        | \$(000)  | \$(000)  | \$(000)  | \$(000)            |
|         |                  |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2010    | 0.000            | 2.876          | 0.000              | 0.000   | 2.876   | 0.000           | 0.000          | 3.258          | 0.000    | 3.258    | 0.382    | 0.382              |
| 2011    | 0.000            | 2.948          | 0.000              | 0.000   | 2.948   | 0.000           | 0.000          | 10.285         | 0.000    | 10.285   | 7.337    | 7.175              |
| 2012    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2013    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2014    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2015    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2016    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2017    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2018    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
| 2019    | 0.000            |                |                    |         |         |                 |                |                |          |          |          |                    |
|         |                  |                |                    |         |         |                 |                |                |          |          |          |                    |
| NOMINAL | 0.000            | 5.824          | 0.000              | 0.000   | 5.824   | 0.000           | 0.000          | 13.542         | 0.000    | 13.542   | 7.719    |                    |
|         |                  |                |                    |         |         |                 |                |                | 0.000    | 40.004   |          |                    |
| NPV     | 0.000            | 5.606          | 0.000              | 0.000   | 5.606   | 0.000           | 0.000          | 12.781         | 0.000    | 12.781   | 7.175    |                    |

Discount Rate:

8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Insulation

| (1)     | (2)              | (3)     | (4)                | (5)     | (6)       | (7)             | (8)      | (9)     | (10)     | (11)            | (12)        | (13)<br>CUMULATIVE |
|---------|------------------|---------|--------------------|---------|-----------|-----------------|----------|---------|----------|-----------------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY | <b>PARTICIPANT</b> |         |           | AVOIDED         | AVOIDED  | PROGRAM |          |                 |             | DISCOUNTED         |
|         | SUPPLY           | PROGRAM | PROGRAM            | OTHER   | TOTAL     | GEN UNIT        | T & D    | FUEL    | OTHER    | TOTAL           | NET         | NET                |
|         | COSTS            | COSTS   | COSTS              | COSTS   | COSTS     | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | BENEFITS    | BENEFITS           |
| YEAR    | \$(000)          | \$(000) | \$(000)            | \$(000) | \$(000)   | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)     | \$(000)            |
|         |                  |         |                    |         | _         |                 |          |         |          |                 |             |                    |
| 2010    | 0.000            | 34.716  | 129.701            | 0.000   | 164.417   | 0.000           | 0.000    | 2.003   | 0.000    | 2.003           | (162.414)   | (162.414)          |
| 2011    | 0.000            | 35.584  | 132.944            | 0.000   | 168.528   | 0.000           | 0.000    | 6.324   | 0.000    | 6.324           | (162.204)   | (312.603)          |
| 2012    | 0.000            | 36.473  | 136.267            | 0.000   | 172.741   | 0.000           | 0.000    | 11.316  | 0.000    | 11.316          | (161.425)   | (450.998)          |
| 2013    | 0.000            | 37.385  | 139.674            | 0.000   | 177.059   | 0.000           | 0.000    | 16.546  | 0.000    | 16.546          | (160.513)   | (578.419)          |
| 2014    | 0.000            | 38.320  | 143.166            | 0.000   | 181.486   | 0.000           | 0.000    | 22.173  | 0.000    | 22.173          | (159.313)   | (695.519)          |
| 2015    | 0.000            | 39.278  | 146.745            | 0.000   | 186.023   | 0.000           | 0.000    | 28.537  | 0.000    | 28.537          | (157.486)   | (802.701)          |
| 2016    | 0.000            | 40.260  | 150.414            | 0.000   | 190.674   | 0.000           | 0.000    | 35.213  | 0.000    | 35.213          | (155.461)   | (900.668)          |
| 2017    | 0.000            | 41.266  | 154.174            | 0.000   | 195.440   | 0.000           | 0.000    | 43.048  | 0.000    | 43.048          | (152.392)   | (989.587)          |
| 2018    | 0.000            | 42.298  | 158.028            | 0.000   | 200.326   | 48.097          | 0.000    | 50.533  | 0.000    | 98.630          | (101.696)   | (1,044.531)        |
| 2019    | 0.000            | 43.356  | 161.979            | 0.000   | 205.335   | 49.493          | 0.000    | 60.306  | 0.000    | 109.799         | (95.535)    | (1,092.322)        |
|         |                  |         |                    |         |           |                 |          |         |          |                 |             |                    |
| NOMINAL | 0.000            | 388.936 | 1,453.093          | 0.000   | 1,842.029 | 97.590          | 0.000    | 275.999 | 0.000    | 373.589         | (1,468.440) |                    |
| NPV     | 0.000            | 277.500 | 1,036.759          | 0.000   | 1,314.259 | 50.744          | 0.000    | 171.192 | 0.000    | 221.937         | (1,092.322) |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)     | (2)              | (3)            | (4)                | (5)     | (6)       | (7)             | (8)      | (9)     | (10)     | (11)            | (12)            | (13)<br>CUMULATIVE |
|---------|------------------|----------------|--------------------|---------|-----------|-----------------|----------|---------|----------|-----------------|-----------------|--------------------|
|         | <b>INCREASED</b> | UTILITY        | <b>PARTICIPANT</b> |         |           | AVOIDED         | AVOIDED  | PROGRAM |          |                 |                 | DISCOUNTED         |
|         | SUPPLY           | <b>PROGRAM</b> | <b>PROGRAM</b>     | OTHER   | TOTAL     | <b>GEN UNIT</b> | T & D    | FUEL    | OTHER    | TOTAL           | NET             | NET                |
|         | COSTS            | COSTS          | COSTS              | COSTS   | COSTS     | BENEFITS        | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b>    |
| YEAR    | \$(000)          | \$(000)        | \$(000)            | \$(000) | \$(000)   | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)            |
|         |                  |                |                    |         |           |                 |          |         |          |                 |                 |                    |
| 2010    | 0.000            | 25.656         | 164.196            | 0.000   | 189.851   | 0.000           | 0.000    | 1.589   | 0.000    | 1.589           | (188.263)       | (188.263)          |
| 2011    | 0.000            | 26.297         | 168.301            | 0.000   | 194.598   | 0.000           | 0.000    | 5.015   | 0.000    | 5.015           | (189.582)       | (363.802)          |
| 2012    | 0.000            | 26.954         | 172.508            | 0.000   | 199.463   | 0.000           | 0.000    | 8.975   | 0.000    | 8.975           | (190.488)       | (527.115)          |
| 2013    | 0.000            | 27.628         | 176.821            | 0.000   | 204.449   | 0.000           | 0.000    | 13.122  | 0.000    | 13.122          | (191.327)       | (678.996)          |
| 2014    | 0.000            | 28.319         | 181.241            | 0.000   | 209.561   | 0.000           | 0.000    | 17.585  | 0.000    | 17.585          | (191.975)       | (820.104)          |
| 2015    | 0.000            | 29.027         | 185.773            | 0.000   | 214.800   | 0.000           | 0.000    | 22.632  | 0.000    | 22.632          | (192.168)       | (950.890)          |
| 2016    | 0.000            | 29.753         | 190.417            | 0.000   | 220.170   | 0.000           | 0.000    | 27.927  | 0.000    | 27.927          | (192.243)       | (1,072.036)        |
| 2017    | 0.000            | 30.497         | 195.177            | 0.000   | 225.674   | 0.000           | 0.000    | 34.141  | 0.000    | 34.141          | (191.533)       | (1,183.793)        |
| 2018    | 0.000            | 31.259         | 200.057            | 0.000   | 231.316   | 47.733          | 0.000    | 40.077  | 0.000    | 87.810          | (143.506)       | (1,261.325)        |
| 2019    | 0.000            | 32.040         | 205.058            | 0.000   | 237.099   | 49.118          | 0.000    | 47.828  | 0.000    | 96.946          | (140.152)       | (1,331.436)        |
|         |                  |                |                    |         |           |                 |          |         |          |                 |                 |                    |
| NOMINAL | 0.000            | 287.430        | 1,839.549          | 0.000   | 2,126.979 | 96.851          | 0.000    | 218.891 | 0.000    | 315.742         | (1,811.237)     |                    |
| NPV     | 0.000            | 205.077        | 1,312.489          | 0.000   | 1,517.566 | 50.360          | 0.000    | 135.770 | 0.000    | 186.130         | (1,331.436)     |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Gold Ring

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)             | (8)      | (9)            | (10)     | (11)            | (12)     | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|-----------------|----------|----------------|----------|-----------------|----------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM        |          |                 |          | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT        | T & D    | FUEL           | OTHER    | TOTAL           | NET      | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | <b>SAVINGS</b> | BENEFITS | <b>BENEFITS</b> | BENEFITS | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000)        | \$(000)  | \$(000)         | \$(000)  | \$(000)            |
|         |           |         |             |         |         |                 |          |                |          |                 |          |                    |
| 2010    | 0.000     | 2.469   | 0.000       | 0.000   | 2.469   | 0.000           | 0.000    | 0.153          | 0.000    | 0.153           | (2.316)  | (2.316)            |
| 2011    | 0.000     | 2.530   | 0.000       | 0.000   | 2.530   | 0.000           | 0.000    | 0.483          | 0.000    | 0.483           | (2.048)  | (4.212)            |
| 2012    | 0.000     | 2.594   | 0.000       | 0.000   | 2.594   | 0.000           | 0.000    | 0.864          | 0.000    | 0.864           | (1.730)  | (5.695)            |
| 2013    | 0.000     | 2.658   | 0.000       | 0.000   | 2.658   | 0.000           | 0.000    | 1.263          | 0.000    | 1.263           | (1.396)  | (6.803)            |
| 2014    | 0.000     | 2.725   | 0.000       | 0.000   | 2.725   | 0.000           | 0.000    | 1.692          | 0.000    | 1.692           | (1.033)  | (7.562)            |
| 2015    | 0.000     | 2.793   | 0.000       | 0.000   | 2.793   | 0.000           | 0.000    | 2.178          | 0.000    | 2.178           | (0.615)  | (7.981)            |
| 2016    | 0.000     | 2.863   | 0.000       | 0.000   | 2.863   | 0.000           | 0.000    | 2.687          | 0.000    | 2.687           | (0.176)  | (8.092)            |
| 2017    | 0.000     | 2.934   | 0.000       | 0.000   | 2.934   | 0.000           | 0.000    | 3.285          | 0.000    | 3.285           | 0.351    | (7.887)            |
| 2018    | 0.000     | 3.008   | 0.000       | 0.000   | 3.008   | 6.560           | 0.000    | 3.856          | 0.000    | 10.417          | 7.409    | (3.884)            |
| 2019    | 0.000     | 3.083   | 0.000       | 0.000   | 3.083   | 6.751           | 0.000    | 4.602          | 0.000    | 11.353          | 8.270    | 0.253              |
|         |           |         |             |         |         |                 |          |                |          |                 |          |                    |
| NOMINAL | 0.000     | 27.657  | 0.000       | 0.000   | 27.657  | 13.311          | 0.000    | 21.062         | 0.000    | 34.373          | 6.716    |                    |
|         |           |         |             |         |         |                 |          |                |          |                 |          |                    |
| NPV     | 0.000     | 19.733  | 0.000       | 0.000   | 19.733  | 6.921           | 0.000    | 13.064         | 0.000    | 19.985          | 0.253    |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Home Energy Fix Up

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)             | (8)      | (9)     | (10)     | (11)            | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|-----------------|----------|---------|----------|-----------------|-----------------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM |          |                 |                 | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D    | FUEL    | OTHER    | TOTAL           | NET             | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS        | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)            |
|         |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| 2010    | 0.000     | 4.072   | 5.084       | 0.000   | 9.156   | 0.000           | 0.000    | 0.252   | 0.000    | 0.252           | (8.903)         | (8.903)            |
| 2011    | 0.000     | 4.174   | 5.211       | 0.000   | 9.385   | 0.000           | 0.000    | 0.796   | 0.000    | 0.796           | (8.589)         | (16.856)           |
| 2012    | 0.000     | 4.278   | 5.341       | 0.000   | 9.619   | 0.000           | 0.000    | 1.424   | 0.000    | 1.424           | (8.195)         | (23.881)           |
| 2013    | 0.000     | 4.385   | 5.474       | 0.000   | 9.860   | 0.000           | 0.000    | 2.083   | 0.000    | 2.083           | (7.777)         | (30.055)           |
| 2014    | 0.000     | 4.495   | 5.611       | 0.000   | 10.106  | 0.000           | 0.000    | 2.791   | 0.000    | 2.791           | (7.315)         | (35.432)           |
| 2015    | 0.000     | 4.607   | 5.752       | 0.000   | 10.359  | 0.000           | 0.000    | 3.592   | 0.000    | 3.592           | (6.767)         | (40.037)           |
| 2016    | 0.000     | 4.722   | 5.895       | 0.000   | 10.618  | 0.000           | 0.000    | 4.433   | 0.000    | 4.433           | (6.185)         | (43.935)           |
| 2017    | 0.000     | 4.840   | 6.043       | 0.000   | 10.883  | 0.000           | 0.000    | 5.419   | 0.000    | 5.419           | (5.464)         | (47.123)           |
| 2018    | 0.000     | 4.961   | 6.194       | 0.000   | 11.155  | 17.249          | 0.000    | 6.361   | 0.000    | 23.610          | 12.454          | (40.394)           |
| 2019    | 0.000     | 5.086   | 6.349       | 0.000   | 11.434  | 17.749          | 0.000    | 7.591   | 0.000    | 25.340          | 13.906          | (33.438)           |
| -       |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| NOMINAL | 0.000     | 45.622  | 56.953      | 0.000   | 102.574 | 34.998          | 0.000    | 34.742  | 0.000    | 69.740          | (32.834)        |                    |
| NPV     | 0.000     | 32.550  | 40.635      | 0.000   | 73.185  | 18.198          | 0.000    | 21.549  | 0.000    | 39.747          | (33.438)        |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Duct Repair

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)      | (8)      | (9)     | (10)     | (11)     | (12)      | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|----------|----------|---------|----------|----------|-----------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED  | AVOIDED  | PROGRAM |          |          |           | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT | T & D    | FUEL    | OTHER    | TOTAL    | NET       | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |           |         |             |         |         |          |          |         |          |          |           |                    |
| 2010    | 0.000     | 14.513  | 60.750      | 0.000   | 75.263  | 0.000    | 0.000    | 0.801   | 0.000    | 0.801    | (74.462)  | (74.462)           |
| 2011    | 0.000     | 14.876  | 62.269      | 0.000   | 77.144  | 0.000    | 0.000    | 2.530   | 0.000    | 2.530    | (74.615)  | (143.549)          |
| 2012    | 0.000     | 15.247  | 63.825      | 0.000   | 79.073  | 0.000    | 0.000    | 4.526   | 0.000    | 4.526    | (74.546)  | (207.461)          |
| 2013    | 0.000     | 15.629  | 65.421      | 0.000   | 81.050  | 0.000    | 0.000    | 6.618   | 0.000    | 6.618    | (74.431)  | (266.547)          |
| 2014    | 0.000     | 16.019  | 67.057      | 0.000   | 83.076  | 0.000    | 0.000    | 8.869   | 0.000    | 8.869    | (74.207)  | (321.091)          |
| 2015    | 0.000     | 16.420  | 68.733      | 0.000   | 85.153  | 0.000    | 0.000    | 11.415  | 0.000    | 11.415   | (73.738)  | (371.276)          |
| 2016    | 0.000     | 16.830  | 70.451      | 0.000   | 87.282  | 0.000    | 0.000    | 14.085  | 0.000    | 14.085   | (73.197)  | (417.402)          |
| 2017    | 0.000     | 17.251  | 72.213      | 0.000   | 89.464  | 0.000    | 0.000    | 17.219  | 0.000    | 17.219   | (72.244)  | (459.556)          |
| 2018    | 0.000     | 17.682  | 74.018      | 0.000   | 91.700  | 36.727   | 0.000    | 20.213  | 0.000    | 56.940   | (34.760)  | (478.336)          |
| 2019    | 0.000     | 18.124  | 75.868      | 0.000   | 93.993  | 37.793   | 0.000    | 24.123  | 0.000    | 61.915   | (32.077)  | (494.383)          |
|         |           |         |             |         |         |          |          |         |          |          |           |                    |
| NOMINAL | 0.000     | 162.592 | 680.605     | 0.000   | 843.198 | 74.520   | 0.000    | 110.400 | 0.000    | 184.920  | (658.278) |                    |
|         |           |         |             |         |         |          |          |         |          |          |           |                    |
| NPV     | 0.000     | 116.007 | 485.601     | 0.000   | 601.608 | 38.748   | 0.000    | 68.477  | 0.000    | 107.225  | (494.383) |                    |

Discount Rate: 8.00%

# TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)             | (8)      | (9)     | (10)     | (11)            | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|-----------------|----------|---------|----------|-----------------|-----------------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM |          |                 |                 | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT        | T & D    | FUEL    | OTHER    | TOTAL           | NET             | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b>    |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)            |
|         |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| 2010    | 0.000     | 2.798   | 8.462       | 0.000   | 11.260  | 0.000           | 0.000    | 0.173   | 0.000    | 0.173           | (11.087)        | (11.087)           |
| 2011    | 0.000     | 2.868   | 8.674       | 0.000   | 11.542  | 0.000           | 0.000    | 0.547   | 0.000    | 0.547           | (10.995)        | (21.267)           |
| 2012    | 0.000     | 2.940   | 8.891       | 0.000   | 11.830  | 0.000           | 0.000    | 0.979   | 0.000    | 0.979           | (10.852)        | (30.571)           |
| 2013    | 0.000     | 3.013   | 9.113       | 0.000   | 12.126  | 0.000           | 0.000    | 1.431   | 0.000    | 1.431           | (10.695)        | (39.061)           |
| 2014    | 0.000     | 3.089   | 9.341       | 0.000   | 12.429  | 0.000           | 0.000    | 1.918   | 0.000    | 1.918           | (10.511)        | (46.787)           |
| 2015    | 0.000     | 3.166   | 9.574       | 0.000   | 12.740  | 0.000           | 0.000    | 2.468   | 0.000    | 2.468           | (10.272)        | (53.778)           |
| 2016    | 0.000     | 3.245   | 9.814       | 0.000   | 13.059  | 0.000           | 0.000    | 3.046   | 0.000    | 3.046           | (10.013)        | (60.088)           |
| 2017    | 0.000     | 3.326   | 10.059      | 0.000   | 13.385  | 0.000           | 0.000    | 3.724   | 0.000    | 3.724           | (9.661)         | (65.725)           |
| 2018    | 0.000     | 3.409   | 10.310      | 0.000   | 13.720  | 4.958           | 0.000    | 4.371   | 0.000    | 9.329           | (4.390)         | (68.097)           |
| 2019    | 0.000     | 3.494   | 10.568      | 0.000   | 14.063  | 5.102           | 0.000    | 5.216   | 0.000    | 10.318          | (3.744)         | (69.970)           |
|         |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| NOMINAL | 0.000     | 31.348  | 94.805      | 0.000   | 126.154 | 10.060          | 0.000    | 23.873  | 0.000    | 33.933          | (92.220)        |                    |
| NPV     | 0.000     | 22.367  | 67.642      | 0.000   | 90.009  | 5.231           | 0.000    | 14.808  | 0.000    | 20.039          | (69.970)        |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)      | (8)             | (9)     | (10)            | (11)            | (12)            | (13)       |
|---------|-----------|---------|-------------|---------|---------|----------|-----------------|---------|-----------------|-----------------|-----------------|------------|
|         |           |         |             |         |         |          |                 |         |                 |                 |                 | CUMULATIVE |
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED  | AVOIDED         | PROGRAM |                 |                 |                 | DISCOUNTED |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT | T & D           | FUEL    | OTHER           | TOTAL           | NET             | NET        |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS | <b>BENEFITS</b> | SAVINGS | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS   |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)  | \$(000)         | \$(000) | \$(000)         | \$(000)         | \$(000)         | \$(000)    |
|         |           |         |             |         |         |          |                 |         |                 |                 |                 |            |
| 2010    | 0.000     | 0.266   | 3.400       | 0.000   | 3.666   | 0.000    | 0.000           | 0.016   | 0.000           | 0.016           | (3.650)         | (3.650)    |
| 2011    | 0.000     | 0.273   | 3.400       | 0.000   | 3.673   | 0.000    | 0.000           | 0.052   | 0.000           | 0.052           | (3.621)         | (7.002)    |
| 2012    | 0.000     | 0.280   | 3.400       | 0.000   | 3.680   | 0.000    | 0.000           | 0.093   | 0.000           | 0.093           | (3.587)         | (10.077)   |
| 2013    | 0.000     | 0.287   | 3.400       | 0.000   | 3.687   | 0.000    | 0.000           | 0.136   | 0.000           | 0.136           | (3.551)         | (12.896)   |
| 2014    | 0.000     | 0.294   | 3.400       | 0.000   | 3.694   | 0.000    | 0.000           | 0.182   | 0.000           | 0.182           | (3.511)         | (15.477)   |
| 2015    | 0.000     | 0.301   | 3.400       | 0.000   | 3.701   | 0.000    | 0.000           | 0.235   | 0.000           | 0.235           | (3.466)         | (17.836)   |
| 2016    | 0.000     | 0.309   | 3.400       | 0.000   | 3.709   | 0.000    | 0.000           | 0.290   | 0.000           | 0.290           | (3.419)         | (19.991)   |
| 2017    | 0.000     | 0.316   | 3.400       | 0.000   | 3.716   | 0.000    | 0.000           | 0.354   | 0.000           | 0.354           | (3.362)         | (21.952)   |
| 2018    | 0.000     | 0.324   | 3.400       | 0.000   | 3.724   | 0.000    | 0.000           | 0.416   | 0.000           | 0.416           | (3.308)         | (23.740)   |
| 2019    | 0.000     | 0.333   | 3.400       | 0.000   | 3.733   | 0.000    | 0.000           | 0.496   | 0.000           | 0.496           | (3.236)         | (25.359)   |
|         |           |         |             |         |         |          |                 |         |                 |                 |                 |            |
| NOMINAL | 0.000     | 2.983   | 34.000      | 0.000   | 36.983  | 0.000    | 0.000           | 2.272   | 0.000           | 2.272           | (34.711)        |            |
|         |           |         |             |         |         |          |                 |         |                 |                 |                 |            |
| NPV     | 0.000     | 2.128   | 24.639      | 0.000   | 26.768  | 0.000    | 0.000           | 1.409   | 0.000           | 1.409           | (25.359)        |            |

Discount Rate:

8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)      | (8)                                       | (9)     | (10)     | (11)     | (12)      | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|----------|---|---------|----------|----------|-----------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED  | AVOIDED                                   | PROGRAM |          |          |           | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT | T & D                                     | FUEL    | OTHER    | TOTAL    | NET       | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS | BENEFITS                                  | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)  | \$(000)                                   | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |           |         |             |         |         |          |   |         |          |          |           |                    |
| 2010    | 0.000     | 0.390   | 18.068      | 0.000   | 18.458  | 0.000    | 0.000                                     | 0.080   | 0.000    | 0.080    | (18.378)  | (18.378)           |
| 2011    | 0.000     | 0.399   | 18.520      | 0.000   | 18.919  | 0.000    | 0.000                                     | 0.251   | 0.000    | 0.251    | (18.668)  | (35.664)           |
| 2012    | 0.000     | 0.409   | 18.983      | 0.000   | 19.392  | 0.000    | 0.000                                     | 0.450   | 0.000    | 0.450    | (18.943)  | (51.904)           |
| 2013    | 0.000     | 0.419   | 19.458      | 0.000   | 19.877  | 0.000    | 0.000                                     | 0.658   | 0.000    | 0.658    | (19.220)  | (67.161)           |
| 2014    | 0.000     | 0.430   | 19.944      | 0.000   | 20.374  | 0.000    | 0.000                                     | 0.881   | 0.000    | 0.881    | (19.493)  | (81.489)           |
| 2015    | 0.000     | 0.441   | 20.443      | 0.000   | 20.883  | 0.000    | 0.000                                     | 1.134   | 0.000    | 1.134    | (19.749)  | (94.930)           |
| 2016    | 0.000     | 0.452   | 20.954      | 0.000   | 21.406  | 0.000    | 0.000                                     | 1.399   | 0.000    | 1.399    | (20.006)  | (107.538)          |
| 2017    | 0.000     | 0.463   | 21.478      | 0.000   | 21.941  | 0.000    | 0.000                                     | 1.711   | 0.000    | 1.711    | (20.230)  | (119.342)          |
| 2018    | 0.000     | 0.475   | 22.015      | 0.000   | 22.489  | 2.396    | 0.000                                     | 2.008   | 0.000    | 4.404    | (18.085)  | (129.113)          |
| 2019    | 0.000     | 0.486   | 22.565      | 0.000   | 23.051  | 2.465    | 0.000                                     | 2.396   | 0.000    | 4.862    | (18.190)  | (138.212)          |
|         |           |         |             |         |         |          | X-3-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1 |         |          |          |           |                    |
| NOMINAL | 0.000     | 4.364   | 202.428     | 0.000   | 206.792 | 4.861    | 0.000                                     | 10.968  | 0.000    | 15.829   | (190.963) |                    |
| NPV     | 0.000     | 3.114   | 144.429     | 0.000   | 147.543 | 2.527    | 0.000                                     | 6.803   | 0.000    | 9.330    | (138.212) |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)              | (3)     | (4)         | (5)     | (6)     | (7)             | (8)      | (9)     | (10)     | (11)     | (12)      | (13)<br>CUMULATIVE |
|---------|------------------|---------|-------------|---------|---------|-----------------|----------|---------|----------|----------|-----------|--------------------|
|         | <b>INCREASED</b> | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM |          |          |           | DISCOUNTED         |
|         | SUPPLY           | PROGRAM | PROGRAM     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D    | FUEL    | OTHER    | TOTAL    | NET       | NET                |
|         | COSTS            | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS           |
| YEAR    | \$(000)          | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |                  |         |             |         |         |                 |          |         |          |          |           |                    |
| 2010    | 0.000            | 0.519   | 19.379      | 0.000   | 19.899  | 0.000           | 0.000    | 0.091   | 0.000    | 0.091    | (19.808)  | (19.808)           |
| 2011    | 0.000            | 0.532   | 19.864      | 0.000   | 20.396  | 0.000           | 0.000    | 0.286   | 0.000    | 0.286    | (20.110)  | (38.428)           |
| 2012    | 0.000            | 0.546   | 20.360      | 0.000   | 20.906  | 0.000           | 0.000    | 0.512   | 0.000    | 0.512    | (20.394)  | (55.913)           |
| 2013    | 0.000            | 0.559   | 20.869      | 0.000   | 21.429  | 0.000           | 0.000    | 0.749   | 0.000    | 0.749    | (20.680)  | (72.330)           |
| 2014    | 0.000            | 0.573   | 21.391      | 0.000   | 21.964  | 0.000           | 0.000    | 1.003   | 0.000    | 1.003    | (20.961)  | (87.737)           |
| 2015    | 0.000            | 0.588   | 21.926      | 0.000   | 22.513  | 0.000           | 0.000    | 1.291   | 0.000    | 1.291    | (21.223)  | (102.180)          |
| 2016    | 0.000            | 0.602   | 22.474      | 0.000   | 23.076  | 0.000           | 0.000    | 1.593   | 0.000    | 1.593    | (21.483)  | (115.719)          |
| 2017    | 0.000            | 0.617   | 23.036      | 0.000   | 23.653  | 0.000           | 0.000    | 1.947   | 0.000    | 1.947    | (21.706)  | (128.384)          |
| 2018    | 0.000            | 0.633   | 23.612      | 0.000   | 24.245  | 2.948           | 0.000    | 2.286   | 0.000    | 5.235    | (19.010)  | (138.654)          |
| 2019    | 0.000            | 0.649   | 24.202      | 0.000   | 24.851  | 3.034           | 0.000    | 2.728   | 0.000    | 5.762    | (19.088)  | (148.203)          |
|         |                  |         |             |         |         |                 |          |         |          |          |           |                    |
| NOMINAL | 0.000            | 5.818   | 217.113     | 0.000   | 222.932 | 5.983           | 0.000    | 12.486  | 0.000    | 18.468   | (204.464) |                    |
|         |                  |         |             |         |         |                 |          |         |          |          |           |                    |
| NPV     | 0.000            | 4.151   | 154.907     | 0.000   | 159.058 | 3.111           | 0.000    | 7.744   | 0.000    | 10.855   | (148.203) |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)                                    | (3)     | (4)         | (5)     | (6)     | (7)             | (8)             | (9)            | (10)            | (11)            | (12)                                  | (13)            |
|---------|--|---------|-------------|---------|---------|-----------------|-----------------|----------------|-----------------|-----------------|---------------------------------------|-----------------|
|         |  |         |             |         |         |                 |                 |                |                 |                 |                                       | CUMULATIVE      |
|         | INCREASED                              | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED         | PROGRAM        |                 |                 |                                       | DISCOUNTED      |
|         | SUPPLY                                 | PROGRAM | PROGRAM     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D           | FUEL           | OTHER           | TOTAL           | NET                                   | NET             |
|         | COSTS                                  | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>SAVINGS</b> | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>BENEFITS</b>                       | <b>BENEFITS</b> |
| YEAR    | \$(000)                                | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)         | \$(000)        | \$(000)         | \$(000)         | \$(000)                               | \$(000)         |
|         |  |         |             |         |         |                 |                 |                |                 |                 | , , , , , , , , , , , , , , , , , , , |                 |
| 2010    | 0.000                                  | 0.909   | 25.996      | 0.000   | 26.905  | 0.000           | 0.000           | 0.127          | 0.000           | 0.127           | (26.778)                              | (26.778)        |
| 2011    | 0.000                                  | 0.932   | 26.646      | 0.000   | 27.577  | 0.000           | 0.000           | 0.399          | 0.000           | 0.399           | (27.178)                              | (51.943)        |
| 2012    | 0.000                                  | 0.955   | 27.312      | 0.000   | 28.267  | 0.000           | 0.000           | 0.715          | 0.000           | 0.715           | (27.552)                              | (75.564)        |
| 2013    | 0.000                                  | 0.979   | 27.995      | 0.000   | 28.973  | 0.000           | 0.000           | 1.045          | 0.000           | 1.045           | (27.928)                              | (97.735)        |
| 2014    | 0.000                                  | 1.003   | 28.695      | 0.000   | 29.698  | 0.000           | 0.000           | 1.401          | 0.000           | 1.401           | (28.297)                              | (118.534)       |
| 2015    | 0.000                                  | 1.028   | 29.412      | 0.000   | 30.440  | 0.000           | 0.000           | 1.803          | 0.000           | 1.803           | (28.638)                              | (138.024)       |
| 2016    | 0.000                                  | 1.054   | 30.147      | 0.000   | 31.201  | 0.000           | 0.000           | 2.224          | 0.000           | 2.224           | (28.977)                              | (156.284)       |
| 2017    | 0.000                                  | 1.080   | 30.901      | 0.000   | 31.981  | 0.000           | 0.000           | 2.719          | 0.000           | 2.719           | (29.262)                              | (173.358)       |
| 2018    | 0.000                                  | 1.107   | 31.673      | 0.000   | 32.781  | 3.870           | 0.000           | 3.192          | 0.000           | 7.062           | (25.719)                              | (187.254)       |
| 2019    | 0.000                                  | 1.135   | 32.465      | 0.000   | 33.600  | 3.982           | 0.000           | 3.810          | 0.000           | 7.792           | (25.809)                              | (200.164)       |
|         | ************************************** |         |             |         |         |                 |                 |                |                 |                 |                                       |                 |
| NOMINAL | 0.000                                  | 10.182  | 291.242     | 0.000   | 301.424 | 7.852           | 0.000           | 17.435         | 0.000           | 25.287          | (276.137)                             |                 |
|         |  |         |             |         |         |                 |                 |                |                 |                 | ,                                     |                 |
| NPV     | 0.000                                  | 7.265   | 207.797     | 0.000   | 215.061 | 4.083           | 0.000           | 10.814         | 0.000           | 14.897          | (200.164)                             |                 |
|         |  |         |             |         |         |                 |                 |                |                 | (               | ,                                     |                 |

Discount Rate:

8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)             | (8)             | (9)     | (10)     | (11)     | (12)      | (13)       |
|---------|-----------|---------|-------------|---------|---------|-----------------|-----------------|---------|----------|----------|-----------|------------|
|         |           |         |             |         |         |                 |                 |         |          |          |           | CUMULATIVE |
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED         | PROGRAM |          |          |           | DISCOUNTED |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D           | FUEL    | OTHER    | TOTAL    | NET       | NET        |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS   |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)    |
|         |           |         |             |         |         |                 |                 |         |          |          |           |            |
| 2010    | 0.000     | 0.519   | 10.518      | 0.000   | 11.037  | 0.000           | 0.000           | 0.057   | 0.000    | 0.057    | (10.980)  | (10.980)   |
| 2011    | 0.000     | 0.532   | 10.780      | 0.000   | 11.313  | 0.000           | 0.000           | 0.179   | 0.000    | 0.179    | (11.133)  | (21.289)   |
| 2012    | 0.000     | 0.546   | 11.050      | 0.000   | 11.596  | 0.000           | 0.000           | 0.321   | 0.000    | 0.321    | (11.275)  | (30.955)   |
| 2013    | 0.000     | 0.559   | 11.326      | 0.000   | 11.885  | 0.000           | 0.000           | 0.469   | 0.000    | 0.469    | (11.416)  | (40.018)   |
| 2014    | 0.000     | 0.573   | 11.609      | 0.000   | 12.183  | 0.000           | 0.000           | 0.629   | 0.000    | 0.629    | (11.554)  | (48.510)   |
| 2015    | 0.000     | 0.588   | 11.900      | 0.000   | 12.487  | 0.000           | 0.000           | 0.809   | 0.000    | 0.809    | (11.678)  | (56.458)   |
| 2016    | 0.000     | 0.602   | 12.197      | 0.000   | 12.799  | 0.000           | 0.000           | 0.998   | 0.000    | 0.998    | (11.801)  | (63.895)   |
| 2017    | 0.000     | 0.617   | 12.502      | 0.000   | 13.119  | 0.000           | 0.000           | 1.220   | 0.000    | 1.220    | (11.899)  | (70.838)   |
| 2018    | 0.000     | 0.633   | 12.815      | 0.000   | 13.447  | 1.769           | 0.000           | 1.433   | 0.000    | 3.202    | (10.246)  | (76.373)   |
| 2019    | 0.000     | 0.649   | 13.135      | 0.000   | 13.784  | 1.820           | 0.000           | 1.710   | 0.000    | 3.530    | (10.253)  | (81.502)   |
|         |           |         |             |         |         |                 |                 |         |          |          |           |            |
| NOMINAL | 0.000     | 5.818   | 117.832     | 0.000   | 123.650 | 3.590           | 0.000           | 7.825   | 0.000    | 11.415   | (112.236) |            |
|         |           |         |             |         |         |                 |                 |         |          |          |           |            |
| NPV     | 0.000     | 4.151   | 84.071      | 0.000   | 88.222  | 1.866           | 0.000           | 4.854   | 0.000    | 6.720    | (81.502)  |            |

Discount Rate:

8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)      | (8)      | (9)     | (10)     | (11)     | (12)     | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|----------|----------|---------|----------|----------|----------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED  | AVOIDED  | PROGRAM |          |          |          | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   |          | T&D      | FUEL    | OTHER    | TOTAL    | NET      | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)  | \$(000)            |
|         |           | 1       |             | +()     | 7(/     |          | 1()      |         | * ( /    | 4(5.5.5) |          |                    |
| 2010    | 0.000     | 0.130   | 1.592       | 0.000   | 1.722   | 0.000    | 0.000    | 0.008   | 0.000    | 0.008    | (1.714)  | (1.714)            |
| 2011    | 0.000     | 0.133   | 1.632       | 0.000   | 1.765   | 0.000    | 0.000    | 0.025   | 0.000    | 0.025    | (1.739)  | (3.324)            |
| 2012    | 0.000     | 0.136   | 1.673       | 0.000   | 1.809   | 0.000    | 0.000    | 0.046   | 0.000    | 0.046    | (1.763)  | (4.836)            |
| 2013    | 0.000     | 0.140   | 1.714       | 0.000   | 1.854   | 0.000    | 0.000    | 0.067   | 0.000    | 0.067    | (1.787)  | (6.255)            |
| 2014    | 0.000     | 0.143   | 1.757       | 0.000   | 1.900   | 0.000    | 0.000    | 0.089   | 0.000    | 0.089    | (1.811)  | (7.586)            |
| 2015    | 0.000     | 0.147   | 1.801       | 0.000   | 1.948   | 0.000    | 0.000    | 0.115   | 0.000    | 0.115    | (1.833)  | (8.834)            |
| 2016    | 0.000     | 0.151   | 1.846       | 0.000   | 1.997   | 0.000    | 0.000    | 0.142   | 0.000    | 0.142    | (1.855)  | (10.003)           |
| 2017    | 0.000     | 0.154   | 1.892       | 0.000   | 2.047   | 0.000    | 0.000    | 0.173   | 0.000    | 0.173    | (1.873)  | (11.096)           |
| 2018    | 0.000     | 0.158   | 1.940       | 0.000   | 2.098   | 0.233    | 0.000    | 0.204   | 0.000    | 0.437    | (1.661)  | (11.993)           |
| 2019    | 0.000     | 0.162   | 1.988       | 0.000   | 2.150   | 0.240    | 0.000    | 0.243   | 0.000    | 0.483    | (1.667)  | (12.827)           |
|         | 0.000     |         | 15.00.5     | 0.000   | 10.200  | 0.454    | 0.000    |         | 0.000    | 1.505    | (15.504) |                    |
| NOMINAL | 0.000     | 1.455   | 17.835      | 0.000   | 19.289  | 0.474    | 0.000    | 1.112   | 0.000    | 1.585    | (17.704) |                    |
| NPV     | 0.000     | 1.038   | 12.725      | 0.000   | 13.763  | 0.246    | 0.000    | 0.690   | 0.000    | 0.936    | (12.827) |                    |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Commercial Indoor Lighting

| (1)     | (2)              | (3)            | (4)         | (5)     | (6)       | (7)             | (8)      | (9)       | (10)     | (11)      | (12)            | (13)       |
|---------|------------------|----------------|-------------|---------|-----------|-----------------|----------|-----------|----------|-----------|-----------------|------------|
|         |                  |                |             |         |           |                 |          |           |          |           |                 | CUMULATIVE |
|         | <b>INCREASED</b> | UTILITY        | PARTICIPANT |         |           | AVOIDED         | AVOIDED  | PROGRAM   |          |           |                 | DISCOUNTED |
|         | SUPPLY           | <b>PROGRAM</b> | PROGRAM     | OTHER   | TOTAL     | <b>GEN UNIT</b> | T & D    | FUEL      | OTHER    | TOTAL     | NET             | NET        |
|         | COSTS            | COSTS          | COSTS       | COSTS   | COSTS     | <b>BENEFITS</b> | BENEFITS | SAVINGS   | BENEFITS | BENEFITS  | <b>BENEFITS</b> | BENEFITS   |
| YEAR    | \$(000)          | \$(000)        | \$(000)     | \$(000) | \$(000)   | \$(000)         | \$(000)  | \$(000)   | \$(000)  | \$(000)   | \$(000)         | \$(000)    |
| ,       |                  |                |             |         |           |                 |          |           |          |           |                 |            |
| 2010    | 0.000            | 385.148        | 0.000       | 0.000   | 385.148   | 0.000           | 0.000    | 56.461    | 0.000    | 56.461    | (328.687)       | (328.687)  |
| 2011    | 0.000            | 394.777        | 0.000       | 0.000   | 394.777   | 0.000           | 0.000    | 178.244   | 0.000    | 178.244   | (216.533)       | (529.181)  |
| 2012    | 0.000            | 404.647        | 0.000       | 0.000   | 404.647   | 0.000           | 0.000    | 318.958   | 0.000    | 318.958   | (85.689)        | (602.646)  |
| 2013    | 0.000            | 414.763        | 0.000       | 0.000   | 414.763   | 0.000           | 0.000    | 466.366   | 0.000    | 466.366   | 51.603          | (561.682)  |
| 2014    | 0.000            | 425.132        | 0.000       | 0.000   | 425.132   | 0.000           | 0.000    | 624.966   | 0.000    | 624.966   | 199.834         | (414.798)  |
| 2015    | 0.000            | 435.760        | 0.000       | 0.000   | 435.760   | 0.000           | 0.000    | 804.330   | 0.000    | 804.330   | 368.570         | (163.955)  |
| 2016    | 0.000            | 446.654        | 0.000       | 0.000   | 446.654   | 0.000           | 0.000    | 992.509   | 0.000    | 992.509   | 545.855         | 180.026    |
| 2017    | 0.000            | 457.820        | 0.000       | 0.000   | 457.820   | 0.000           | 0.000    | 1,213.356 | 0.000    | 1,213.356 | 755.536         | 620.874    |
| 2018    | 0.000            | 469.266        | 0.000       | 0.000   | 469.266   | 796.092         | 0.000    | 1,424.314 | 0.000    | 2,220.406 | 1,751.140       | 1,566.961  |
| 2019    | 0.000            | 480.998        | 0.000       | 0.000   | 480.998   | 819.196         | 0.000    | 1,699.789 | 0.000    | 2,518.985 | 2,037.988       | 2,586.462  |
|         |                  |                |             |         |           |                 |          |           |          |           |                 |            |
| NOMINAL | 0.000            | 4,314.965      | 0.000       | 0.000   | 4,314.965 | 1,615.289       | 0.000    | 7,779.292 | 0.000    | 9,394.581 | 5,079.616       |            |
|         |                  |                |             |         |           |                 |          |           |          |           |                 |            |
| NPV     | 0.000            | 3,078.660      | 0.000       | 0.000   | 3,078.660 | 839.906         | 0.000    | 4,825.216 | 0.000    | 5,665.122 | 2,586.462       |            |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

# TOTAL RESOURCE COST TESTS PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)             | (8)      | (9)     | (10)     | (11)            | (12)            | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|-----------------|----------|---------|----------|-----------------|-----------------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED         | AVOIDED  | PROGRAM |          |                 |                 | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT        | T & D    | FUEL    | OTHER    | TOTAL           | NET             | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | SAVINGS | BENEFITS | <b>BENEFITS</b> | <b>BENEFITS</b> | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)         | \$(000)            |
|         |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| 2010    | 0.000     | 0.069   | 2.492       | 0.000   | 2.561   | 0.000           | 0.000    | 0.010   | 0.000    | 0.010           | (2.551)         | (2.551)            |
| 2011    | 0.000     | 0.071   | 2.554       | 0.000   | 2.625   | 0.000           | 0.000    | 0.032   | 0.000    | 0.032           | (2.593)         | (4.952)            |
| 2012    | 0.000     | 0.073   | 2.618       | 0.000   | 2.691   | 0.000           | 0.000    | 0.057   | 0.000    | 0.057           | (2.634)         | (7.210)            |
| 2013    | 0.000     | 0.074   | 2.684       | 0.000   | 2.758   | 0.000           | 0.000    | 0.084   | 0.000    | 0.084           | (2.674)         | (9.333)            |
| 2014    | 0.000     | 0.076   | 2.751       | 0.000   | 2.827   | 0.000           | 0.000    | 0.112   | 0.000    | 0.112           | (2.715)         | (11.328)           |
| 2015    | 0.000     | 0.078   | 2.819       | 0.000   | 2.898   | 0.000           | 0.000    | 0.144   | 0.000    | 0.144           | (2.753)         | (13.202)           |
| 2016    | 0.000     | 0.080   | 2.890       | 0.000   | 2.970   | 0.000           | 0.000    | 0.178   | 0.000    | 0.178           | (2.792)         | (14.962)           |
| 2017    | 0.000     | 0.082   | 2.962       | 0.000   | 3.044   | 0.000           | 0.000    | 0.217   | 0.000    | 0.217           | (2.827)         | (16.611)           |
| 2018    | 0.000     | 0.084   | 3.036       | 0.000   | 3.120   | 0.000           | 0.000    | 0.255   | 0.000    | 0.255           | (2.865)         | (18.159)           |
| 2019    | 0.000     | 0.086   | 3.112       | 0.000   | 3.198   | 0.000           | 0.000    | 0.305   | 0.000    | 0.305           | (2.894)         | (19.607)           |
|         |           |         |             |         |         |                 |          |         |          |                 |                 |                    |
| NOMINAL | 0.000     | 0.773   | 27.919      | 0.000   | 28.692  | 0.000           | 0.000    | 1.394   | 0.000    | 1.394           | (27.298)        |                    |
| NPV     | 0.000     | 0.552   | 19.920      | 0.000   | 20.471  | 0.000           | 0.000    | 0.865   | 0.000    | 0.865           | (19.607)        |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

# TOTAL RESOURCE COST TESTS PROGRAM: Commercial Energy Audit

| (1)     | (2)       | (3)       | (4)         | (5)     | (6)       | (7)      | (8)      | (9)     | (10)     | (11)     | (12)      | (13)       |
|---------|-----------|-----------|-------------|---------|-----------|----------|----------|---------|----------|----------|-----------|------------|
|         | INCREASED | UTILITY   | PARTICIPANT |         |           | AVOIDED  | AVOIDED  | PROGRAM |          |          |           | CUMULATIVE |
|         |           |           |             |         |           |          |          |         |          |          |           |            |
|         | SUPPLY    | PROGRAM   | PROGRAM     | OTHER   | TOTAL     | GEN UNIT | T & D    | FUEL    | OTHER    | TOTAL    | NET       | NET        |
|         | COSTS     | COSTS     | COSTS       | COSTS   | COSTS     | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS  | BENEFITS   |
| YEAR    | \$(000)   | \$(000)   | \$(000)     | \$(000) | \$(000)   | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)    |
|         |           |           |             |         |           |          |          |         |          |          |           |            |
| 2010    | 0.000     | 142.972   | 0.000       | 0.000   | 142.972   | 0.000    | 0.000    | 4.082   | 0.000    | 4.082    | (138.890) | (138.890)  |
| 2011    | 0.000     | 146.547   | 0.000       | 0.000   | 146.547   | 0.000    | 0.000    | 12.887  | 0.000    | 12.887   | (133.660) | (262.649)  |
| 2012    | 0.000     | 150.210   | 0.000       | 0.000   | 150.210   | 0.000    | 0.000    | 23.060  | 0.000    | 23.060   | (127.150) | (371.660)  |
| 2013    | 0.000     | 153.965   | 0.000       | 0.000   | 153.965   | 0.000    | 0.000    | 33.717  | 0.000    | 33.717   | (120.248) | (467.117)  |
| 2014    | 0.000     | 157.815   | 0.000       | 0.000   | 157.815   | 0.000    | 0.000    | 45.184  | 0.000    | 45.184   | (112.631) | (549.904)  |
| 2015    | 0.000     | 161.760   | 0.000       | 0.000   | 161.760   | 0.000    | 0.000    | 58.152  | 0.000    | 58.152   | (103.608) | (620.418)  |
| 2016    | 0.000     | 165.804   | 0.000       | 0.000   | 165.804   | 0.000    | 0.000    | 71.757  | 0.000    | 71.757   | (94.047)  | (679.684)  |
| 2017    | 0.000     | 169.949   | 0.000       | 0.000   | 169.949   | 0.000    | 0.000    | 87.723  | 0.000    | 87.723   | (82.226)  | (727.662)  |
| 2018    | 0.000     | 174.198   | 0.000       | 0.000   | 174.198   | 45.407   | 0.000    | 102.975 | 0.000    | 148.382  | (25.815)  | (741.609)  |
| 2019    | 0.000     | 178.553   | 0.000       | 0.000   | 178.553   | 46.725   | 0.000    | 122.892 | 0.000    | 169.617  | (8.936)   | (746.079)  |
| NOMINAL | 0.000     | 1,601.773 | 0.000       | 0.000   | 1,601.773 | 92.132   | 0.000    | 562.428 | 0.000    | 654.560  | (947.212) |            |
| NPV     | 0.000     | 1,142.840 | 0.000       | 0.000   | 1,142.840 | 47.906   | 0.000    | 348.854 | 0.000    | 396.760  | (746.079) |            |

Discount Rate: 8.00%

### TOTAL RESOURCE COST TESTS PROGRAM: Commercial Energy Efficiency Duct

| (1)     | (2)              | (3)            | (4)                | (5)     | (6)     | (7)             | (8)            | (9)            | (10)     | (11)     | (12)     | (13)       |
|---------|------------------|----------------|--------------------|---------|---------|-----------------|----------------|----------------|----------|----------|----------|------------|
|         |                  |                |                    |         |         |                 |                |                |          |          |          | CUMULATIVE |
|         | <b>INCREASED</b> | UTILITY        | <b>PARTICIPANT</b> |         |         | <b>AVOIDED</b>  | <b>AVOIDED</b> | <b>PROGRAM</b> |          |          |          | DISCOUNTED |
|         | SUPPLY           | <b>PROGRAM</b> | <b>PROGRAM</b>     | OTHER   | TOTAL   | <b>GEN UNIT</b> | T & D          | FUEL           | OTHER    | TOTAL    | NET      | NET        |
|         | COSTS            | COSTS          | COSTS              | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS       | SAVINGS        | BENEFITS | BENEFITS | BENEFITS | BENEFITS   |
| YEAR    | \$(000)          | \$(000)        | \$(000)            | \$(000) | \$(000) | \$(000)         | \$(000)        | \$(000)        | \$(000)  | \$(000)  | \$(000)  | \$(000)    |
|         |                  |                |                    |         |         |                 |                |                |          |          |          |            |
| 2010    | 0.000            | 0.451          | 4.500              | 0.000   | 4.951   | 0.000           | 0.000          | 0.073          | 0.000    | 0.073    | (4.878)  | (4.878)    |
| 2011    | 0.000            | 0.462          | 4.613              | 0.000   | 5.075   | 0.000           | 0.000          | 0.230          | 0.000    | 0.230    | (4.845)  | (9.364)    |
| 2012    | 0.000            | 0.474          | 4.728              | 0.000   | 5.202   | 0.000           | 0.000          | 0.412          | 0.000    | 0.412    | (4.790)  | (13.470)   |
| 2013    | 0.000            | 0.486          | 4.846              | 0.000   | 5.332   | 0.000           | 0.000          | 0.602          | 0.000    | 0.602    | (4.729)  | (17.224)   |
| 2014    | 0.000            | 0.498          | 4.967              | 0.000   | 5.465   | 0.000           | 0.000          | 0.807          | 0.000    | 0.807    | (4.658)  | (20.648)   |
| 2015    | 0.000            | 0.510          | 5.091              | 0.000   | 5.602   | 0.000           | 0.000          | 1.039          | 0.000    | 1.039    | (4.563)  | (23.753)   |
| 2016    | 0.000            | 0.523          | 5.219              | 0.000   | 5.742   | 0.000           | 0.000          | 1.282          | 0.000    | 1.282    | (4.460)  | (26.564)   |
| 2017    | 0.000            | 0.536          | 5.349              | 0.000   | 5.885   | 0.000           | 0.000          | 1.567          | 0.000    | 1.567    | (4.318)  | (29.083)   |
| 2018    | 0.000            | 0.549          | 5.483              | 0.000   | 6.032   | 2.721           | 0.000          | 1.840          | 0.000    | 4.560    | (1.472)  | (29.878)   |
| 2019    | 0.000            | 0.563          | 5.620              | 0.000   | 6.183   | 2.799           | 0.000          | 2.196          | 0.000    | 4.995    | (1.188)  | (30.473)   |
|         |                  |                |                    |         |         |                 |                |                |          |          |          |            |
| NOMINAL | 0.000            | 5.053          | 50.415             | 0.000   | 55.468  | 5.520           | 0.000          | 10.048         | 0.000    | 15.568   | (39.899) |            |
|         |                  |                |                    |         |         |                 |                |                |          |          |          |            |
| NPV     | 0.000            | 3.605          | 35.970             | 0.000   | 39.576  | 2.870           | 0.000          | 6.233          | 0.000    | 9.103    | (30.473) |            |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### TOTAL RESOURCE COST TESTS PROGRAM: Commercial Energy Efficiency Cool Roof

| (1)     | (2)              | (3)            | (4)            | (5)          | (6)       | (7)             | (8)            | (9)            | (10)     | (11)      | (12)        | (13)<br>CUMULATIVE                         |
|---------|------------------|----------------|----------------|--------------|-----------|-----------------|----------------|----------------|----------|-----------|-------------|--|
|         | <b>INCREASED</b> | UTILITY        | PARTICIPANT    |              |           | AVOIDED         | <b>AVOIDED</b> | <b>PROGRAM</b> |          |           |             | DISCOUNTED                                 |
|         | SUPPLY           | <b>PROGRAM</b> | <b>PROGRAM</b> | <b>OTHER</b> | TOTAL     | <b>GEN UNIT</b> | T & D          | FUEL           | OTHER    | TOTAL     | NET         | NET  |
|         | COSTS            | COSTS          | COSTS          | COSTS        | COSTS     | <b>BENEFITS</b> | BENEFITS       | SAVINGS        | BENEFITS | BENEFITS  | BENEFITS    | BENEFITS                                   |
| YEAR    | \$(000)          | \$(000)        | \$(000)        | \$(000)      | \$(000)   | \$(000)         | \$(000)        | \$(000)        | \$(000)  | \$(000)   | \$(000)     | \$(000)                                    |
|         |                  |                |                |              |           |                 |                |                |          |           |             |  |
| 2010    | 0.000            | 120.502        | 411.157        | 0.000        | 531.659   | 0.000           | 0.000          | 17.665         | 0.000    | 17.665    | (513.993)   | (513.993)                                  |
| 2011    | 0.000            | 123.514        | 421.436        | 0.000        | 544.950   | 0.000           | 0.000          | 55.767         | 0.000    | 55.767    | (489.183)   | (966.940)                                  |
| 2012    | 0.000            | 126.602        | 431.971        | 0.000        | 558.574   | 0.000           | 0.000          | 99.793         | 0.000    | 99.793    | (458.781)   | (1,360.271)                                |
| 2013    | 0.000            | 129.767        | 442.771        | 0.000        | 572.538   | 0.000           | 0.000          | 145.912        | 0.000    | 145.912   | (426.626)   | (1,698.940)                                |
| 2014    | 0.000            | 133.011        | 453.840        | 0.000        | 586.852   | 0.000           | 0.000          | 195.534        | 0.000    | 195.534   | (391.318)   | (1,986.570)                                |
| 2015    | 0.000            | 136.337        | 465.186        | 0.000        | 601.523   | 0.000           | 0.000          | 251.652        | 0.000    | 251.652   | (349.871)   | (2,224.687)                                |
| 2016    | 0.000            | 139.745        | 476.816        | 0.000        | 616.561   | 0.000           | 0.000          | 310.528        | 0.000    | 310.528   | (306.033)   | (2,417.540)                                |
| 2017    | 0.000            | 143.239        | 488.736        | 0.000        | 631.975   | 0.000           | 0.000          | 379.624        | 0.000    | 379.624   | (252.351)   | (2,564.784)                                |
| 2018    | 0.000            | 146.820        | 500.955        | 0.000        | 647.774   | 0.011           | 0.000          | 445.627        | 0.000    | 445.638   | (202.136)   | (2,673.992)                                |
| 2019    | 0.000            | 150.490        | 513.478        | 0.000        | 663.969   | 0.011           | 0.000          | 531.815        | 0.000    | 531.827   | (132.142)   | (2,740.096)                                |
|         |                  |                |                |              |           |                 |                |                |          |           |             | WHO SEE SEE SEE SEE SEE SEE SEE SEE SEE SE |
| NOMINAL | 0.000            | 1,350.028      | 4,606.345      | 0.000        | 5,956.373 | 0.022           | 0.000          | 2,433.918      | 0.000    | 2,433.940 | (3,522.433) |  |
| NPV     | 0.000            | 963.224        | 3,286.555      | 0.000        | 4,249.779 | 0.012           | 0.000          | 1,509.672      | 0.000    | 1,509.683 | (2,740.096) |  |

Discount Rate: 8.00% ol (11) / col (6)]: 0.36

### TOTAL RESOURCE COST TESTS PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| (1)     | (2)       | (3)     | (4)         | (5)     | (6)     | (7)      | (8)      | (9)     | (10)     | (11)     | (12)     | (13)<br>CUMULATIVE |
|---------|-----------|---------|-------------|---------|---------|----------|----------|---------|----------|----------|----------|--------------------|
|         | INCREASED | UTILITY | PARTICIPANT |         |         | AVOIDED  | AVOIDED  | PROGRAM |          |          |          | DISCOUNTED         |
|         | SUPPLY    | PROGRAM | PROGRAM     | OTHER   | TOTAL   | GEN UNIT | T & D    | FUEL    | OTHER    | TOTAL    | NET      | NET                |
|         | COSTS     | COSTS   | COSTS       | COSTS   | COSTS   | BENEFITS | BENEFITS | SAVINGS | BENEFITS | BENEFITS | BENEFITS | BENEFITS           |
| YEAR    | \$(000)   | \$(000) | \$(000)     | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)  | \$(000)            |
|         |           |         |             |         |         |          |          |         |          |          | -        |                    |
| 2010    | 0.000     | 0.456   | 4.035       | 0.000   | 4.491   | 0.000    | 0.000    | 0.077   | 0.000    | 0.077    | (4.415)  | (4.415)            |
| 2011    | 0.000     | 0.468   | 4.136       | 0.000   | 4.604   | 0.000    | 0.000    | 0.242   | 0.000    | 0.242    | (4.362)  | (8.454)            |
| 2012    | 0.000     | 0.479   | 4.239       | 0.000   | 4.719   | 0.000    | 0.000    | 0.433   | 0.000    | 0.433    | (4.286)  | (12.128)           |
| 2013    | 0.000     | 0.491   | 4.345       | 0.000   | 4.837   | 0.000    | 0.000    | 0.633   | 0.000    | 0.633    | (4.204)  | (15.466)           |
| 2014    | 0.000     | 0.504   | 4.454       | 0.000   | 4.958   | 0.000    | 0.000    | 0.848   | 0.000    | 0.848    | (4.110)  | (18.487)           |
| 2015    | 0.000     | 0.516   | 4.565       | 0.000   | 5.082   | 0.000    | 0.000    | 1.091   | 0.000    | 1.091    | (3.991)  | (21.202)           |
| 2016    | 0.000     | 0.529   | 4.680       | 0.000   | 5.209   | 0.000    | 0.000    | 1.346   | 0.000    | 1.346    | (3.862)  | (23.636)           |
| 2017    | 0.000     | 0.542   | 4.797       | 0.000   | 5.339   | 0.000    | 0.000    | 1.646   | 0.000    | 1.646    | (3.693)  | (25.791)           |
| 2018    | 0.000     | 0.556   | 4.916       | 0.000   | 5.472   | 1.496    | 0.000    | 1.932   | 0.000    | 3.428    | (2.044)  | (26.896)           |
| 2019    | 0.000     | 0.570   | 5.039       | 0.000   | 5.609   | 1.540    | 0.000    | 2.305   | 0.000    | 3.845    | (1.764)  | (27.778)           |
|         |           |         |             |         |         |          | 0.000    |         | 0.000    | 10.505   | (27.521) |                    |
| NOMINAL | 0.000     | 5.111   | 45.207      | 0.000   | 50.318  | 3.036    | 0.000    | 10.551  | 0.000    | 13.587   | (36.731) |                    |
| NPV     | 0.000     | 3.646   | 32.255      | 0.000   | 35.901  | 1.579    | 0.000    | 6.544   | 0.000    | 8.123    | (27.778) |                    |

Discount Rate: 8.00%

Benefit/Cost Ratio [col (11) / col (6)]:

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)       | (8)      | (9)     | (10)    | (11)     | (12)         | CUDAU ATTUE | CIDAL ATRIC | D 6.    |
|---------|--------------|---------|---------|----------|----------|-----------|----------|---------|---------|----------|--------------|-------------|-------------|---------|
|         | SAVINGS IN   |         |         |          |          |           | CUSTOMER |         |         |          | CUMULATIVE   |             | CUMULATIVE  | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    |          | EQUIPMENT |          | OTHER   |         | NET      | DISCOUNTED   |             | DISCOUNTED  | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS     | COSTS    | COSTS   | COSTS   | BENEFITS | NET BENEFITS | BENEFITS    | COSTS       | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)      | \$(000)     | \$(000)     |         |
|         |              |         |         |          |          |           |          |         |         |          |              |             |             |         |
| 2010    | 0.571        | 5.400   | 9.000   | 0.000    | 14.971   | 18.000    | 0.000    | 0.000   | 18.000  | (3.029)  | (3.029)      | 15          | 18          | 0.83    |
| 2011    | 1.778        | 5.400   | 9.000   | 0.000    | 16.178   | 18.450    | 0.000    | 0.000   | 18.450  | (2.272)  | (5.132)      | 30          | 35          | 0.85    |
| 2012    | 3.074        | 5.400   | 9.000   | 0.000    | 17.474   | 18.911    | 0.000    | 0.000   | 18.911  | (1.437)  | (6.364)      | 45          | 51          | 0.88    |
| 2013    | 4.405        | 5.400   | 9.000   | 0.000    | 18.805   | 19.384    | 0.000    | 0.000   | 19.384  | (0.579)  | (6.824)      | 60          | 67          | 0.90    |
| 2014    | 5.780        | 5.400   | 9.000   | 0.000    | 20.180   | 19.869    | 0.000    | 0.000   | 19.869  | 0.312    | (6.595)      | 75          | 81          | 0.92    |
| 2015    | 7.264        | 5.400   | 9.000   | 0.000    | 21.664   | 20.365    | 0.000    | 0.000   | 20.365  | 1.299    | (5.711)      | 89          | 95          | 0.94    |
| 2016    | 8.793        | 5.400   | 9.000   | 0.000    | 23.193   | 20.874    | 0.000    | 0.000   | 20.874  | 2.318    | (4.250)      | 104         | 108         | 0.96    |
| 2017    | 10.421       | 5.400   | 9.000   | 0.000    | 24.821   | 21.396    | 0.000    | 0.000   | 21.396  | 3.424    | (2.252)      | 119         | 121         | 0.98    |
| 2018    | 12.123       | 5.400   | 9.000   | 0.000    | 26.523   | 21.931    | 0.000    | 0.000   | 21.931  | 4.592    | 0.228        | 133         | 133         | 1.00    |
| 2019    | 13.985       | 5.400   | 9.000   | 0.000    | 28.385   | 22.480    | 0.000    | 0.000   | 22.480  | 5.905    | 3.182        | 147         | 144         | 1.02    |
|         |              |         |         |          |          |           |          |         |         |          |              |             |             |         |
| NOMINAL | 68.193       | 54.000  | 90.000  | 0.000    | 212.193  | 201.661   | 0.000    | 0.000   | 201.661 | 10.533   |              |             |             |         |
|         |              |         |         |          |          |           |          |         |         |          |              |             |             |         |
| NPV     | 42.709       | 39.133  | 65.222  | 0.000    | 147.064  | 143.882   | 0.000    | 0.000   | 143.882 | 3.182    |              |             |             |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Benefit/Cost Ratio: 8.00%

#### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)     | (2)<br>SAVINGS IN<br>PARTICIPANTS | (3)<br>TAX         | (4)<br>UTILITY     | (5)<br>OTHER |         |                  | O & M   | (9)<br>OTHER |         | (11)<br>NET | (12)<br>CUMULATIVE<br>DISCOUNTED | DISCOUNTED          | CUMULATIVE<br>DISCOUNTED | Benefit<br>to Cost |
|---------|-----------------------------------|--------------------|--------------------|--------------|---------|------------------|---------|--------------|---------|-------------|----------------------------------|---------------------|--------------------------|--------------------|
| YEAR    | BILL                              | CREDITS<br>\$(000) | REBATES<br>\$(000) | BENEFITS     |         | COSTS<br>\$(000) | COSTS   | COSTS        |         |             | NET BENEFITS                     | BENEFITS<br>\$(000) | COSTS<br>\$(000)         | Ratio              |
| IEAR    | \$(000)                           | 3(000)             | \$(000)            | \$(000)      | \$(000) | \$(000)          | \$(000) | \$(000)      | \$(000) | \$(000)     | \$(000)                          | 3(000)              | \$(000)                  |                    |
| 2010    | 0.021                             | 4.653              | 2.100              | 0.000        | 6.774   | 15.509           | 0.000   | 0.000        | 15.509  | (8.735)     | (8.735)                          | 7                   | 16                       | 0.44               |
| 2011    | 0.067                             | 4.769              | 2.100              | 0.000        | 6.936   | 15.897           | 0.000   | 0.000        | 15.897  | (8.961)     | (17.032)                         | 13                  | 30                       | 0.44               |
| 2012    | 0.115                             | 4.888              | 2.100              | 0.000        | 7.104   | 16.294           | 0.000   | 0.000        | 16.294  | (9.190)     | (24.911)                         | 19                  | 44                       | 0.44               |
| 2013    | 0.165                             | 5.010              | 2.100              | 0.000        | 7.276   | 16.701           | 0.000   | 0.000        | 16.701  | (9.426)     | (32.394)                         | 25                  | 57                       | 0.44               |
| 2014    | 0.217                             | 5.136              | 2.100              | 0.000        | 7.453   | 17.119           | 0.000   | 0.000        | 17.119  | (9.666)     | (39.499)                         | 31                  | 70                       | 0.44               |
| 2015    | 0.272                             | 5.264              | 2.100              | 0.000        | 7.637   | 17.547           | 0.000   | 0.000        | 17.547  | (9.910)     | (46.244)                         | 36                  | 82                       | 0.44               |
| 2016    | 0.330                             | 5.396              | 2.100              | 0.000        | 7.825   | 17.986           | 0.000   | 0.000        | 17.986  | (10.160)    | (52.646)                         | 41                  | 93                       | 0.44               |
| 2017    | 0.391                             | 5.531              | 2.100              | 0.000        | 8.021   | 18.435           | 0.000   | 0.000        | 18.435  | (10.414)    | (58.722)                         | 45                  | 104                      | 0.44               |
| 2018    | 0.455                             | 5.669              | 2.100              | 0.000        | 8.224   | 18.896           | 0.000   | 0.000        | 18.896  | (10.672)    | (64.488)                         | 50                  | 114                      | 0.44               |
| 2019    | 0.525                             | 5.811              | 2.100              | 0.000        | 8.435   | 19.368           | 0.000   | 0.000        | 19.368  | (10.933)    | (69.958)                         | 54                  | 124                      | 0.44               |
| NOMINAL | 2.558                             | 52.125             | 21.000             | 0.000        | 75.684  | 173.752          | 0.000   | 0.000        | 173.752 | (98.068)    |                                  |                     |                          |                    |
| NPV     | 1.602                             | 37.191             | 15.218             | 0.000        | 54.011  | 123.969          | 0.000   | 0.000        | 123.969 | (69.958)    |                                  |                     |                          |                    |

In-service year of generation unit:

2018

Discount rate: Benefit/Cost Ratio:

8.00% 0.44

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Single Family Survey Walk Through

| (1)     | (2)<br>SAVINGS IN | (3)        | (4)     | (5)     | (6)       |           | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)<br>CUMULATIVE |          | CUMULATIVE | Benefit |
|---------|-------------------|------------|---------|---------|-----------|-----------|-----------------|---------|---------|-----------|--------------------|----------|------------|---------|
|         | PARTICIPANTS      | TAX        | UTILITY | OTHER   |           | EQUIPMENT |                 | OTHER   | TOTAL   | NET       | DISCOUNTED         |          | DISCOUNTED | to Cost |
| 2022    | BILL              | CREDITS    | REBATES |         | BENEFITS  | COSTS     | COSTS           |         | COSTS   |           | NET BENEFITS       | BENEFITS |            | Ratio   |
| YEAR    | \$(000)           | \$(000)    | \$(000) | \$(000) | \$(000)   | \$(000)   | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)            | \$(000)  | \$(000)    |         |
|         |                   |            |         |         |           |           |                 |         |         |           |                    |          |            |         |
| 2010    | 31.498            | 0.000      | 0.000   | 0.000   | 31.498    | 0.000     | 0.000           | 0.000   | 0.000   | 31.498    | 31.498             | 31       | 0          | 1.00    |
| 2011    | 98.107            | 0.000      | 0.000   | 0.000   | 98.107    | 0.000     | 0.000           | 0.000   | 0.000   | 98.107    | 122.338            | 122      | 0          | 1.00    |
| 2012    | 169.584           | 0.000      | 0.000   | 0.000   | 169.584   | 0.000     | 0.000           | 0.000   | 0.000   | 169.584   | 267.729            | 268      | 0          | 1.00    |
| 2013    | 242.976           | 0.000      | 0.000   | 0.000   | 242.976   | 0.000     | 0.000           | 0.000   | 0.000   | 242.976   | 460.611            | 461      | 0          | 1.00    |
| 2014    | 318.869           | 0.000      | 0.000   | 0.000   | 318.869   | 0.000     | 0.000           | 0.000   | 0.000   | 318.869   | 694.989            | 695      | 0          | 1.00    |
| 2015    | 400.716           | 0.000      | 0.000   | 0.000   | 400.716   | 0.000     | 0.000           | 0.000   | 0.000   | 400.716   | 967.710            | 968      | 0          | 1.00    |
| 2016    | 485.029           | 0.000      | 0.000   | 0.000   | 485.029   | 0.000     | 0.000           | 0.000   | 0.000   | 485.029   | 1,273.361          | 1,273    | 0          | 1.00    |
| 2017    | 574.838           | 0.000      | 0.000   | 0.000   | 574.838   | 0.000     | 0.000           | 0.000   | 0.000   | 574.838   | 1,608.773          | 1,609    | 0          | 1.00    |
| 2018    | 668.739           | 0.000      | 0.000   | 0.000   | 668.739   | 0.000     | 0.000           | 0.000   | 0.000   | 668.739   | 1,970.072          | 1,970    | 0          | 1.00    |
| 2019    | 771.440           | 0.000      | 0.000   | 0.000   | 771.440   | 0.000     | 0.000           | 0.000   | 0.000   | 771.440   | 2,355.984          | 2,356    | 0          | 1.00    |
|         |                   | 5.75555.80 |         |         |           |           |                 |         |         |           |                    |          |            |         |
| NOMINAL | 3,761.797         | 0.000      | 0.000   | 0.000   | 3,761.797 | 0.000     | 0.000           | 0.000   | 0.000   | 3,761.797 |                    |          |            |         |
| NPV     | 2,355.984         | 0.000      | 0.000   | 0.000   | 2,355.984 | 0.000     | 0.000           | 0.000   | 0.000   | 2,355.984 |                    |          |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Benefit/Cost Ratio: 1.00

#### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Single Family Survey Video & DVDs

0.000 1,058.669

| (1)     | (2)<br>SAVINGS IN | (3)     | . (4)   | (5)      | (6)       | (7)       | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)         | OLD OIL ATTIVE                          | CIDAL ATRIC | D 6     |
|---------|-------------------|---------|---------|----------|-----------|-----------|-----------------|---------|---------|-----------|--------------|---|-------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL     | EOUIPMENT |                 | OTHER   | TOTAL   | NET       | CUMULATIVE   |   | CUMULATIVE  | Benefit |
|         | BILL              | CREDITS |         |          |           |           |                 |         |         | NET       | DISCOUNTED   |   | DISCOUNTED  | to Cost |
| ****    |                   |         | REBATES | BENEFITS | BENEFITS  | COSTS     | COSTS           |         | COSTS   | BENEFITS  | NET BENEFITS | BENEFITS                                | COSTS       | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000)   | \$(000)   | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)      | \$(000)                                 | \$(000)     |         |
|         |                   |         |         |          |           |           |                 |         |         |           |              |   |             |         |
| 2010    | 14.154            | 0.000   | 0.000   | 0.000    | 14.154    | 0.000     | 0.000           | 0.000   | 0.000   | 14.154    | 14.154       | 14                                      | 0           | 1.00    |
| 2011    | 44.085            | 0.000   | 0.000   | 0.000    | 44.085    | 0.000     | 0.000           | 0.000   | 0.000   | 44.085    | 54.973       | 55                                      | 0           | 1.00    |
| 2012    | 76.203            | 0.000   | 0.000   | 0.000    | 76.203    | 0.000     | 0.000           | 0.000   | 0.000   | 76.203    | 120.305      | 120                                     | 0           | 1.00    |
| 2013    | 109.182           | 0.000   | 0.000   | 0.000    | 109.182   | 0.000     | 0.000           | 0.000   | 0.000   | 109.182   | 206.977      | 207                                     | 0           | 1.00    |
| 2014    | 143.285           | 0.000   | 0.000   | 0.000    | 143.285   | 0.000     | 0.000           | 0.000   | 0.000   | 143.285   | 312.295      | 312                                     | 0           | 1.00    |
| 2015    | 180.063           | 0.000   | 0.000   | 0.000    | 180.063   | 0.000     | 0.000           | 0.000   | 0.000   | 180.063   | 434.843      | 435                                     | 0           | 1.00    |
| 2016    | 217.949           | 0.000   | 0.000   | 0.000    | 217.949   | 0.000     | 0.000           | 0.000   | 0.000   | 217.949   | 572.188      | 572                                     | 0           | 1.00    |
| 2017    | 258.305           | 0.000   | 0.000   | 0.000    | 258.305   | 0.000     | 0.000           | 0.000   | 0.000   | 258.305   | 722.907      | 723                                     | 0           | 1.00    |
| 2018    | 300.500           | 0.000   | 0.000   | 0.000    | 300.500   | 0.000     | 0.000           | 0.000   | 0.000   | 300.500   | 885.258      | 885                                     | 0           | 1.00    |
| 2019    | 346.649           | 0.000   | 0.000   | 0.000    | 346.649   | 0.000     | 0.000           | 0.000   | 0.000   | 346.649   | 1,058.669    | 1,059                                   | 0           | 1.00    |
|         |                   |         |         |          |           |           |                 |         |         |           |              | *************************************** |             |         |
| NOMINAL | 1,690.375         | 0.000   | 0.000   | 0.000    | 1,690.375 | 0.000     | 0.000           | 0.000   | 0.000   | 1,690.375 |              |   |             |         |

0.000 0.000 0.000 1,058.669

0.000

In-service year of generation unit: 2018 Discount rate: 8.00%

0.000

NPV

1,058.669

Benefit/Cost Ratio: 1.00

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Single Family Survey On Line

| (1)     | (2)<br>SAVINGS IN<br>PARTICIPANTS | (3)<br>TAX | (4)<br>UTILITY | (5)<br>OTHER | (6)       | (7)<br>CUSTOMER<br>EQUIPMENT | (8)<br>CUSTOMER<br>O & M | (9)<br>OTHER | (10)    | (11)<br>NET | (12)<br>CUMULATIVE<br>DISCOUNTED |          | CUMULATIVE<br>DISCOUNTED | Benefit<br>to Cost |
|---------|-----------------------------------|------------|----------------|--------------|-----------|------------------------------|--------------------------|--------------|---------|-------------|----------------------------------|----------|--------------------------|--------------------|
|         | BILL                              | CREDITS    | REBATES        |              | BENEFITS  | COSTS                        | COSTS                    | COSTS        | COSTS   | BENEFITS    | NET BENEFITS                     | BENEFITS |                          | Ratio              |
| YEAR    | \$(000)                           | \$(000)    | \$(000)        | \$(000)      | \$(000)   | \$(000)                      | \$(000)                  | \$(000)      | \$(000) | \$(000)     | \$(000)                          | \$(000)  |                          | Ratio              |
|         |                                   |            |                |              |           |                              |                          |              | -()     |             |                                  | *(000)   | \$(000)                  |                    |
| 2010    | 10.288                            | 0.000      | 0.000          | 0.000        | 10.288    | 0.000                        | 0.000                    | 0.000        | 0.000   | 10.288      | 10.288                           | 10       | 0                        | 1.00               |
| 2011    | 32.044                            | 0.000      | 0.000          | 0.000        | 32.044    | 0.000                        | 0.000                    | 0.000        | 0.000   | 32.044      | 39.958                           | 40       | 0                        | 1.00               |
| 2012    | 55.390                            | 0.000      | 0.000          | 0.000        | 55.390    | 0.000                        | 0.000                    | 0.000        | 0.000   | 55.390      | 87.446                           | 87       | 0                        | 1.00               |
| 2013    | 79.362                            | 0.000      | 0.000          | 0.000        | 79.362    | 0.000                        | 0.000                    | 0.000        | 0.000   | 79.362      | 150.446                          | 150      | 0                        | 1.00               |
| 2014    | 104.150                           | 0.000      | 0.000          | 0.000        | 104.150   | 0.000                        | 0.000                    | 0.000        | 0.000   | 104.150     | 226.999                          | 227      | 0                        | 1.00               |
| 2015    | 130.883                           | 0.000      | 0.000          | 0.000        | 130.883   | 0.000                        | 0.000                    | 0.000        | 0.000   | 130.883     | 316.076                          | 316      | 0                        | 1.00               |
| 2016    | 158.421                           | 0.000      | 0.000          | 0.000        | 158.421   | 0.000                        | 0.000                    | 0.000        | 0.000   | 158.421     | 415.908                          | 416      | 0                        | 1.00               |
| 2017    | 187.755                           | 0.000      | 0.000          | 0.000        | 187.755   | 0.000                        | 0.000                    | 0.000        | 0.000   | 187.755     | 525,461                          | 525      | 0                        | 1.00               |
| 2018    | 218.425                           | 0.000      | 0.000          | 0.000        | 218.425   | 0.000                        | 0.000                    | 0.000        | 0.000   | 218.425     | 643.469                          | 643      | 0                        | 1.00               |
| 2019    | 251.970                           | 0.000      | 0.000          | 0.000        | 251.970   | 0.000                        | 0.000                    | 0.000        | 0.000   | 251.970     | 769.517                          | 770      | 0                        | 1.00               |
| NOMINAL | 1,228.687                         | 0.000      | 0.000          | 0.000        | 1,228.687 | 0.000                        | 0.000                    | 0.000        | 0.000   | 1,228.687   |                                  |          |                          |                    |

0.000

0.000 0.000

769.517

In-service year of generation unit: 2018
Discount rate: 8.00%

0.000

NPV

769.517

Benefit/Cost Ratio: 1.00

0.000

0.000

769.517

#### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

| (1)     | (2)<br>SAVINGS IN   | (3)            | (4)     | (5)      | (6)             | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)        | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|---------------------|----------------|---------|----------|-----------------|------------------|-----------------|---------|---------|-------------|--------------------|------------|------------|---------|
|         | <b>PARTICIPANTS</b> | TAX            | UTILITY | OTHER    | TOTAL           | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET         | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL                | <b>CREDITS</b> | REBATES | BENEFITS | <b>BENEFITS</b> | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS    | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)             | \$(000)        | \$(000) | \$(000)  | \$(000)         | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)     | \$(000)            | \$(000)    | \$(000)    |         |
|         |                     |                |         |          |                 |                  |                 |         |         |             |                    |            |            |         |
| 2010    | 2.442               | 45.000         | 9.000   | 0.000    | 56.442          | 180.685          | 0.000           | 0.000   | 180.685 | (124.243)   | (124.243)          | 56         | 181        | 0.31    |
| 2011    | 7.605               | 45.000         | 9.000   | 0.000    | 61.605          | 185.202          | 0.000           | 0.000   | 185.202 | (123.597)   | (238.684)          | 113        | 352        | 0.32    |
| 2012    | 13.146              | 45.000         | 9.000   | 0.000    | 67.146          | 189.832          | 0.000           | 0.000   | 189.832 | (122.686)   | (343.867)          | 171        | 515        | 0.33    |
| 2013    | 18.835              | 45.000         | 9.000   | 0.000    | 72.835          | 194.578          | 0.000           | 0.000   | 194.578 | (121.742)   | (440.510)          | 229        | 669        | 0.34    |
| 2014    | 24.718              | 45.000         | 9.000   | 0.000    | 78.718          | 199.442          | 0.000           | 0.000   | 199.442 | (120.724)   | (529.246)          | 287        | 816        | 0.35    |
| 2015    | 31.063              | 45.000         | 9.000   | 0.000    | 85.063          | 204.428          | 0.000           | 0.000   | 204.428 | (119.365)   | (610.484)          | 345        | 955        | 0.36    |
| 2016    | 37.599              | 45.000         | 9.000   | 0.000    | 91.599          | 209.539          | 0.000           | 0.000   | 209.539 | (117.940)   | (684.806)          | 402        | 1,087      | 0.37    |
| 2017    | 44.561              | 45.000         | 9.000   | 0.000    | 98.561          | 214.777          | 0.000           | 0.000   | 214.777 | (116.216)   | (752.617)          | 460        | 1,212      | 0.38    |
| 2018    | 51.840              | 45.000         | 9.000   | 0.000    | 105.840         | 220.147          | 0.000           | 0.000   | 220.147 | (114.307)   | (814.373)          | 517        | 1,331      | 0.39    |
| 2019    | 59.801              | 45.000         | 9.000   | 0.000    | 113.801         | 225.650          | 0.000           | 0.000   | 225.650 | (111.849)   | (870.326)          | 574        | 1,444      | 0.40    |
| NOMBIAL | 201 (11             | 450,000        | 00.000  | 0.000    | 021 (11         | 2.024.250        |                 | 0.000   |         |             |                    |            |            |         |
| NOMINAL | 291.611             | 450.000        | 90.000  | 0.000    | 831.611         | 2,024.279        | 0.000           | 0.000   | ####### | (1,192.668) |                    |            |            |         |

0.000 0.000 ###### (870.326)

In-service year of generation unit: 2018 8.00% Discount rate:

182.633 326.110

NPV

Benefit/Cost Ratio: 0.40

65.222

0.000

573.965

1,444.291

2,788.327

| (1)     | (2)<br>SAVINGS IN   | (3)            | (4)     | (5)      | (6)       | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)                     | (11)        | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|---------------------|----------------|---------|----------|-----------|------------------|-----------------|---------|--------------------------|-------------|--------------------|------------|------------|---------|
|         | <b>PARTICIPANTS</b> | TAX            | UTILITY | OTHER    | TOTAL     | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL                    | NET         | DISCOUNTED         |            | DISCOUNTED | to Cost |
|         | BILL                | <b>CREDITS</b> | REBATES | BENEFITS | BENEFITS  | COSTS            | COSTS           | COSTS   | COSTS                    | BENEFITS    | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)             | \$(000)        | \$(000) | \$(000)  | \$(000)   | \$(000)          | \$(000)         | \$(000) | \$(000)                  | \$(000)     | \$(000)            | \$(000)    | \$(000)    |         |
|         |                     |                |         |          |           |                  |                 |         | Corona da Maria da Maria |             |                    |            |            |         |
| 2010    | 5.003               | 108.000        | 21.600  | 0.000    | 134.603   | 348.827          | 0.000           | 0.000   | 348.827                  | (214.224)   | (214.224)          | 135        | 349        | 0.39    |
| 2011    | 15.584              | 108.000        | 21.600  | 0.000    | 145.184   | 357.548          | 0.000           | 0.000   | 357.548                  | (212.364)   | (410.857)          | 269        | 680        | 0.40    |
| 2012    | 26.938              | 108.000        | 21.600  | 0.000    | 156.538   | 366.486          | 0.000           | 0.000   | 366.486                  | (209.949)   | (590.854)          | 403        | 994        | 0.41    |
| 2013    | 38.596              | 108.000        | 21.600  | 0.000    | 168.196   | 375.649          | 0.000           | 0.000   | 375.649                  | (207.453)   | (755.537)          | 537        | 1,292      | 0.42    |
| 2014    | 50.651              | 108.000        | 21.600  | 0.000    | 180.251   | 385.040          | 0.000           | 0.000   | 385.040                  | (204.789)   | (906.063)          | 669        | 1,575      | 0.42    |
| 2015    | 63.652              | 108.000        | 21.600  | 0.000    | 193.252   | 394.666          | 0.000           | 0.000   | 394.666                  | (201.414)   | (1,043.141)        | 801        | 1,844      | 0.43    |
| 2016    | 77.045              | 108.000        | 21.600  | 0.000    | 206.645   | 404.532          | 0.000           | 0.000   | 404.532                  | (197.888)   | (1,167.844)        | 931        | 2,099      | 0.44    |
| 2017    | 91.311              | 108.000        | 21.600  | 0.000    | 220.911   | 414.646          | 0.000           | 0.000   | 414.646                  | (193.735)   | (1,280.887)        | 1,060      | 2,341      | 0.45    |
| 2018    | 106.226             | 108.000        | 21.600  | 0.000    | 235.826   | 425.012          | 0.000           | 0.000   | 425.012                  | (189.185)   | (1,383.098)        | 1,187      | 2,570      | 0.46    |
| 2019    | 122.540             | 108.000        | 21.600  | 0.000    | 252.140   | 435.637          | 0.000           | 0.000   | 435.637                  | (183.497)   | (1,474.892)        | 1,313      | 2,788      | 0.47    |
| NOMINAL | 597.546             | 1,080.000      | 216.000 | 0.000    | 1,893.546 | 3,908.043        | 0.000           | 0.000   | #######                  | (2,014.497) |                    |            |            |         |

0.000 0.000 ###### (1,474.892)

In-service year of generation unit: 2018
Discount rate: 8.00%

374.238 782.664

NPV

Benefit/Cost Ratio: 0.47

0.000 1,313.435

| (1)     | (2)          | (3)       | (4)     | (5)      | (6)       | (7)              | (8)      | (9)     | (10)    | (11)        | (12)         |            |            |         |
|---------|--------------|-----------|---------|----------|-----------|------------------|----------|---------|---------|-------------|--------------|------------|------------|---------|
|         | SAVINGS IN   |           |         |          |           | CUSTOMER         | CUSTOMER |         |         |             | CUMULATIVE   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX       | UTILITY | OTHER    | TOTAL     | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET         | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS   | REBATES | BENEFITS | BENEFITS  | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS    | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000)   | \$(000) | \$(000)  | \$(000)   | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)     | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |           |         |          |           |                  |          |         |         |             |              |            |            |         |
| 2010    | 6.100        | 165.000   | 33.000  | 0.000    | 204.100   | 408.507          | 0.000    | 0.000   | 408.507 | (204.407)   | (204.407)    | 204        | 409        | 0.50    |
| 2011    | 18.998       | 165.000   | 33.000  | 0.000    | 216.998   | 418.720          | 0.000    | 0.000   | 418.720 | (201.722)   | (391.187)    | 405        | 796        | 0.51    |
| 2012    | 32.839       | 165.000   | 33.000  | 0.000    | 230.839   | 429.188          | 0.000    | 0.000   | 429.188 | (198.348)   | (561.239)    | 603        | 1,164      | 0.52    |
| 2013    | 47.051       | 165.000   | 33.000  | 0.000    | 245.051   | 439.917          | 0.000    | 0.000   | 439.917 | (194.866)   | (715.929)    | 797        | 1,513      | 0.53    |
| 2014    | 61.748       | 165.000   | 33.000  | 0.000    | 259.748   | 450.915          | 0.000    | 0.000   | 450.915 | (191.168)   | (856.443)    | 988        | 1,845      | 0.54    |
| 2015    | 77.597       | 165.000   | 33.000  | 0.000    | 275.597   | 462.188          | 0.000    | 0.000   | 462.188 | (186.591)   | (983.434)    | 1,176      | 2,159      | 0.54    |
| 2016    | 93.924       | 165.000   | 33.000  | 0.000    | 291.924   | 473.743          | 0.000    | 0.000   | 473.743 | (181.819)   | (1,098.011)  | 1,360      | 2,458      | 0.55    |
| 2017    | 111.315      | 165.000   | 33.000  | 0.000    | 309.315   | 485.586          | 0.000    | 0.000   | 485.586 | (176.271)   | (1,200.863)  | 1,540      | 2,741      | 0.56    |
| 2018    | 129.499      | 165.000   | 33.000  | 0.000    | 327.499   | 497.726          | 0.000    | 0.000   | 497.726 | (170.227)   | (1,292.832)  | 1,717      | 3,010      | 0.57    |
| 2019    | 149.387      | 165.000   | 33.000  | 0.000    | 347.387   | 510.169          | 0.000    | 0.000   | 510.169 | (162.783)   | (1,374.264)  | 1,891      | 3,265      | 0.58    |
| NOMINAL | 728.458      | 1,650.000 | 330.000 | 0.000    | 2,708.458 | 4,576.660        | 0.000    | 0.000   | ####### | (1,868.202) |              |            |            | (4)     |
| NPV     | 456.228      | 1,195.737 | 239.147 | 0.000    | 1,891.111 | 3,265.375        | 0.000    | 0.000   | ####### | (1,374.264) |              |            |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Benefit/Cost Ratio: 0.58

8,049.811

| (1)     | (2)<br>SAVINGS IN | (3)       | (4)     | (5)      | (6)       | (7)<br>CUSTOMER | (8)     | (9)     | (10)    | (11)        | (12)<br>CUMULATIVE | CUMUI ATINE | CUMULATIVE | Danafit |
|---------|-------------------|-----------|---------|----------|-----------|-----------------|---------|---------|---------|-------------|--------------------|-------------|------------|---------|
|         | PARTICIPANTS      | TAX       | UTILITY | OTHER    | TOTAL     | EOUIPMENT       |         | OTHER   | TOTAL   | NET         | DISCOUNTED         |             | DISCOUNTED | Benefit |
|         | BILL              |           | REBATES | BENEFITS | BENEFITS  | COSTS           | COSTS   |         |         | BENEFITS    |                    |             |            | to Cost |
| YEAR    | \$(000)           | \$(000)   | \$(000) | \$(000)  |           |                 |         |         |         |             |                    | BENEFITS    |            | Ratio   |
| TLAK    | 3(000)            | \$(000)   | \$(000) | 3(000)   | \$(000)   | \$(000)         | \$(000) | \$(000) | \$(000) | \$(000)     | \$(000)            | \$(000)     | \$(000)    |         |
| 2010    | 16.680            | 574.500   | 76.600  | 0.000    | ((7.700   | 1 007 053       | 0.000   | 0.000   |         | (220.252)   | (220.272)          | ~~~         |            |         |
|         |                   |           | 76.600  | 0.000    | 667.780   | 1,007.053       | 0.000   | 0.000   | ####### | (339.273)   | (339.273)          | 668         | 1,007      | 0.66    |
| 2011    | 51.953            | 574.500   | 76.600  | 0.000    | 703.053   | 1,032.229       | 0.000   | 0.000   | ####### | (329.176)   | (644.065)          | 1,319       | 1,963      | 0.67    |
| 2012    | 89.804            | 574.500   | 76.600  | 0.000    | 740.904   | 1,058.035       | 0.000   | 0.000   | ####### | (317.131)   | (915.954)          | 1,954       | 2,870      | 0.68    |
| 2013    | 128.669           | 574.500   | 76.600  | 0.000    | 779.769   | 1,084.485       | 0.000   | 0.000   | ####### | (304.716)   | (1,157.847)        | 2,573       | 3,731      | 0.69    |
| 2014    | 168.858           | 574.500   | 76.600  | 0.000    | 819.958   | 1,111.598       | 0.000   | 0.000   | ####### | (291.639)   | (1,372.211)        | 3,176       | 4,548      | 0.70    |
| 2015    | 212.201           | 574.500   | 76.600  | 0.000    | 863.301   | 1,139.388       | 0.000   | 0.000   | ####### | (276.087)   | (1,560.111)        | 3,763       | 5,323      | 0.71    |
| 2016    | 256.849           | 574.500   | 76.600  | 0.000    | 907.949   | 1,167.872       | 0.000   | 0.000   | ####### | (259.923)   | (1,723.906)        | 4,335       | 6,059      | 0.72    |
| 2017    | 304.408           | 574.500   | 76.600  | 0.000    | 955.508   | 1,197.069       | 0.000   | 0.000   | ####### | (241.561)   | (1,864.855)        | 4,893       | 6,758      | 0.72    |
| 2018    | 354.134           | 574.500   | 76.600  | 0.000    | 1,005.234 | 1,226.996       | 0.000   | 0.000   | ####### | (221.762)   | (1,984.666)        | 5,436       | 7,421      | 0.73    |
| 2019    | 408.519           | 574.500   | 76.600  | 0.000    | 1,059.619 | 1,257.671       | 0.000   | 0.000   | ####### | (198.051)   | (2,083.741)        | 5,966       | 8,050      | 0.74    |
|         | 7 1               |           |         |          |           |                 |         |         |         |             |                    |             |            |         |
| NOMINAL | 1,992.075         | 5,745.000 | 766.000 | 0.000    | 8,503.075 | 11,282.394      | 0.000   | 0.000   | ####### | (2,779.319) |                    |             |            |         |

0.000 0.000 ###### (2,083.741)

In-service year of generation unit: 2018 Discount rate:

1,247.621 4,163.337

NPV

8.00% Benefit/Cost Ratio: 0.74

0.000 5,966.070

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)      | (11)        | (12)         |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|-----------|-------------|--------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |           |             | CUMULATIVE   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL     | NET         | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS     | BENEFITS    | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000)   | \$(000)     | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |           |             |              |            |            |         |
| 2010    | 2.228        | 0.000   | 9.000   | 0.000    | 11.228   | 143.273          | 0.000    | 0.000   | 143.273   | (132.045)   | (132.045)    | 11         | 143        | 0.08    |
| 2011    | 6.938        | 0.000   | 9.000   | 0.000    | 15.938   | 146.855          | 0.000    | 0.000   | 146.855   | (130.917)   | (253.264)    | 26         | 279        | 0.09    |
| 2012    | 11.993       | 0.000   | 9.000   | 0.000    | 20.993   | 150.526          | 0.000    | 0.000   | 150.526   | (129.533)   | (364.318)    | 44         | 408        | 0.11    |
| 2013    | 17.183       | 0.000   | 9.000   | 0.000    | 26.183   | 154.289          | 0.000    | 0.000   | 154.289   | (128.106)   | (466.013)    | 65         | 531        | 0.12    |
| 2014    | 22.550       | 0.000   | 9.000   | 0.000    | 31.550   | 158.146          | 0.000    | 0.000   | 158.146   | (126.596)   | (559.065)    | 88         | 647        | 0.14    |
| 2015    | 28.338       | 0.000   | 9.000   | 0.000    | 37.338   | 162.100          | 0.000    | 0.000   | 162.100   | (124.762)   | (643.976)    | 113        | 757        | 0.15    |
| 2016    | 34.301       | 0.000   | 9.000   | 0.000    | 43.301   | 166.153          | 0.000    | 0.000   | 166.153   | (122.852)   | (721.393)    | 141        | 862        | 0.16    |
| 2017    | 40.652       | 0.000   | 9.000   | 0.000    | 49.652   | 170.306          | 0.000    | 0.000   | 170.306   | (120.654)   | (791.794)    | 170        | 961        | 0.18    |
| 2018    | 47.293       | 0.000   | 9.000   | 0.000    | 56.293   | 174.564          | 0.000    | 0.000   | 174.564   | (118.271)   | (855.692)    | 200        | 1,056      | 0.19    |
| 2019    | 54.556       | 0.000   | 9.000   | 0.000    | 63.556   | 178.928          | 0.000    | 0.000   | 178.928   | (115.373)   | (913.407)    | 232        | 1,145      | 0.20    |
| NOMINAL | 266.031      | 0.000   | 90.000  | 0.000    | 356.031  | 1,605.140        | 0.000    | 0.000   | 1,605.140 | (1,249.109) |              |            |            |         |
| NPV     | 166.613      | 0.000   | 65.222  | 0.000    | 231.835  | 1,145.242        | 0.000    | 0.000   | 1,145.242 | (913.407)   |              |            |            |         |

In-service year of generation unit:

Discount rate:

2018

8.00%

Benefit/Cost Ratio:

#### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Multi Family Survey Walk Through

| (1)     | (2)<br>SAVINGS IN | (3)            | (4)     | (5)      | (6)       | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|----------------|---------|----------|-----------|------------------|-----------------|---------|---------|-----------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX            | UTILITY | OTHER    | TOTAL     | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET       | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | <b>CREDITS</b> | REBATES | BENEFITS | BENEFITS  | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS  | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000)        | \$(000) | \$(000)  | \$(000)   | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |                |         |          |           |                  |                 |         |         |           |                    |            |            |         |
| 2010    | 10.269            | 0.000          | 0.000   | 0.000    | 10.269    | 0.000            | 0.000           | 0.000   | 0.000   | 10.269    | 10.269             | 10         | 0          | 1.00    |
| 2011    | 31.985            | 0.000          | 0.000   | 0.000    | 31.985    | 0.000            | 0.000           | 0.000   | 0.000   | 31.985    | 39.884             | 40         | 0          | 1.00    |
| 2012    | 55.287            | 0.000          | 0.000   | 0.000    | 55.287    | 0.000            | 0.000           | 0.000   | 0.000   | 55.287    | 87.284             | 87         | 0          | 1.00    |
| 2013    | 79.215            | 0.000          | 0.000   | 0.000    | 79.215    | 0.000            | 0.000           | 0.000   | 0.000   | 79.215    | 150.167            | 150        | 0          | 1.00    |
| 2014    | 103.957           | 0.000          | 0.000   | 0.000    | 103.957   | 0.000            | 0.000           | 0.000   | 0.000   | 103.957   | 226.579            | 227        | 0          | 1.00    |
| 2015    | 130.641           | 0.000          | 0.000   | 0.000    | 130.641   | 0.000            | 0.000           | 0.000   | 0.000   | 130.641   | 315.491            | 315        | 0          | 1.00    |
| 2016    | 158.128           | 0.000          | 0.000   | 0.000    | 158.128   | 0.000            | 0.000           | 0.000   | 0.000   | 158.128   | 415.138            | 415        | 0          | 1.00    |
| 2017    | 187.407           | 0.000          | 0.000   | 0.000    | 187.407   | 0.000            | 0.000           | 0.000   | 0.000   | 187.407   | 524.489            | 524        | 0          | 1.00    |
| 2018    | 218.021           | 0.000          | 0.000   | 0.000    | 218.021   | 0.000            | 0.000           | 0.000   | 0.000   | 218.021   | 642.279            | 642        | 0          | 1.00    |
| 2019    | 251.503           | 0.000          | 0.000   | 0.000    | 251.503   | 0.000            | 0.000           | 0.000   | 0.000   | 251.503   | 768.093            | 768        | 0          | 1.00    |
|         |                   |                |         |          |           |                  |                 |         |         |           |                    |            |            |         |
| NOMINAL | 1,226.413         | 0.000          | 0.000   | 0.000    | 1,226.413 | 0.000            | 0.000           | 0.000   | 0.000   | 1,226.413 |                    |            |            |         |
|         |                   |                |         |          |           |                  |                 |         |         |           |                    |            |            |         |
| NPV     | 768.093           | 0.000          | 0.000   | 0.000    | 768.093   | 0.000            | 0.000           | 0.000   | 0.000   | 768.093   |                    |            |            |         |

In-service year of generation unit:

2018

Discount rate:

Benefit/Cost Ratio:

8.00% 1.00

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)     | (2)          | (3)             | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)     | (12)              |            |            |         |
|---------|--------------|-----------------|---------|----------|----------|------------------|----------|---------|---------|----------|-------------------|------------|------------|---------|
|         | SAVINGS IN   |                 |         |          |          | CUSTOMER         | CUSTOMER |         |         |          | <b>CUMULATIVE</b> | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX             | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET      | DISCOUNTED        | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS         | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS | NET BENEFITS      | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)           | \$(000)    | \$(000)    |         |
|         |              |                 |         |          |          |                  |          |         |         |          |                   |            |            |         |
| 2010    | 4.629        | 0.000           | 0.000   | 0.000    | 4.629    | 0.000            | 0.000    | 0.000   | 0.000   | 4.629    | 4.629             | 5          | 0          | 1.00    |
| 2011    | 14.417       | 0.000           | 0.000   | 0.000    | 14.417   | 0.000            | 0.000    | 0.000   | 0.000   | 14.417   | 17.978            | 18         | 0          | 1.00    |
| 2012    | 24,921       | 0.000           | 0.000   | 0.000    | 24.921   | 0.000            | 0.000    | 0.000   | 0.000   | 24.921   | 39.344            | 39         | 0          | 1.00    |
| 2013    | 35.706       | 0.000           | 0.000   | 0.000    | 35.706   | 0.000            | 0.000    | 0.000   | 0.000   | 35.706   | 67.688            | 68         | 0          | 1.00    |
| 2014    | 46.859       | 0.000           | 0.000   | 0.000    | 46.859   | 0.000            | 0.000    | 0.000   | 0.000   | 46.859   | 102.131           | 102        | 0          | 1.00    |
| 2015    | 58.887       | 0.000           | 0.000   | 0.000    | 58.887   | 0.000            | 0.000    | 0.000   | 0.000   | 58.887   | 142.208           | 142        | 0          | 1.00    |
| 2016    | 71.277       | 0.000           | 0.000   | 0.000    | 71.277   | 0.000            | 0.000    | 0.000   | 0.000   | 71.277   | 187.125           | 187        | 0          | 1.00    |
| 2017    | 84.475       | 0.000           | 0.000   | 0.000    | 84.475   | 0.000            | 0.000    | 0.000   | 0.000   | 84.475   | 236.415           | 236        | 0          | 1.00    |
| 2018    | 98.274       | 0.000           | 0.000   | 0.000    | 98.274   | 0.000            | 0.000    | 0.000   | 0.000   | 98.274   | 289.509           | 290        | 0          | 1.00    |
| 2019    | 113.366      | 0.000           | 0.000   | 0.000    | 113.366  | 0.000            | 0.000    | 0.000   | 0.000   | 113.366  | 346.220           | 346        | 0          | 1.00    |
|         |              |                 |         |          |          |                  |          |         |         |          |                   |            |            |         |
| NOMINAL | 552.809      | 0.000           | 0.000   | 0.000    | 552.809  | 0.000            | 0.000    | 0.000   | 0.000   | 552.809  |                   |            |            |         |
| 0.22.22 | N 180 CO. D  | 2 (2 (2 (2 (3 ) | 1 222   | 12/12/10 | 100000   | 1.225            |          |         |         |          |                   |            |            |         |
| NPV     | 346.220      | 0.000           | 0.000   | 0.000    | 346.220  | 0.000            | 0.000    | 0.000   | 0.000   | 346.220  |                   |            |            |         |

In-service year of generation unit:

Discount rate:

2018

Benefit/Cost Ratio:

8.00% 1.00

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Multi Family Survey On Line

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)      | (6)      | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE  | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|----------|----------|------------------|-----------------|---------|---------|----------|---------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET      | DISCOUNTED          | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS | <b>NET BENEFITS</b> | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)             | \$(000)    | \$(000)    |         |
|         |                   |         |         |          |          |                  |                 |         |         |          |                     |            |            |         |
| 2010    | 3.367             | 0.000   | 0.000   | 0.000    | 3.367    | 0.000            | 0.000           | 0.000   | 0.000   | 3.367    | 3.367               | 3          | 0          | 1.00    |
| 2011    | 10.489            | 0.000   | 0.000   | 0.000    | 10.489   | 0.000            | 0.000           | 0.000   | 0.000   | 10.489   | 13.079              | 13         | 0          | 1.00    |
| 2012    | 18.130            | 0.000   | 0.000   | 0.000    | 18.130   | 0.000            | 0.000           | 0.000   | 0.000   | 18.130   | 28.623              | 29         | 0          | 1.00    |
| 2013    | 25.977            | 0.000   | 0.000   | 0.000    | 25.977   | 0.000            | 0.000           | 0.000   | 0.000   | 25.977   | 49.244              | 49         | 0          | 1.00    |
| 2014    | 34.090            | 0.000   | 0.000   | 0.000    | 34.090   | 0.000            | 0.000           | 0.000   | 0.000   | 34.090   | 74.301              | 74         | 0          | 1.00    |
| 2015    | 42.840            | 0.000   | 0.000   | 0.000    | 42.840   | 0.000            | 0.000           | 0.000   | 0.000   | 42.840   | 103.458             | 103        | 0          | 1.00    |
| 2016    | 51.854            | 0.000   | 0.000   | 0.000    | 51.854   | 0.000            | 0.000           | 0.000   | 0.000   | 51.854   | 136.135             | 136        | 0          | 1.00    |
| 2017    | 61.456            | 0.000   | 0.000   | 0.000    | 61.456   | 0.000            | 0.000           | 0.000   | 0.000   | 61.456   | 171.993             | 172        | 0          | 1.00    |
| 2018    | 71.495            | 0.000   | 0.000   | 0.000    | 71.495   | 0.000            | 0.000           | 0.000   | 0.000   | 71.495   | 210.620             | 211        | 0          | 1.00    |
| 2019    | 82.474            | 0.000   | 0.000   | 0.000    | 82.474   | 0.000            | 0.000           | 0.000   | 0.000   | 82.474   | 251.877             | 252        | 0          | 1.00    |
|         |                   |         |         |          |          |                  |                 |         |         |          |                     |            |            | -1172   |
| NOMINAL | 402.172           | 0.000   | 0.000   | 0.000    | 402.172  | 0.000            | 0.000           | 0.000   | 0.000   | 402.172  |                     |            |            |         |
|         |                   |         |         |          |          |                  |                 |         |         |          |                     |            |            |         |
| NPV     | 251.877           | 0.000   | 0.000   | 0.000    | 251.877  | 0.000            | 0.000           | 0.000   | 0.000   | 251.877  |                     |            |            |         |

In-service year of generation unit: 2018 Discount rate: 8.00%

Benefit/Cost Ratio: 1.00

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Lighting Program (CFL)

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)     | (6)       | (7)<br>CUSTOMER | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)<br>CUMULATIVE | CUMUI ATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|---------|-----------|-----------------|-----------------|---------|---------|-----------|--------------------|-------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER   | TOTAL     | EQUIPMENT       |                 | OTHER   | TOTAL   | NET       | DISCOUNTED         |             | DISCOUNTED |         |
|         | BILL              | CREDITS | REBATES |         |           | COSTS           |                 | COSTS   | COSTS   | BENEFITS  |                    | BENEFITS    |            | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)   | \$(000)         | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)            | \$(000)     | \$(000)    |         |
|         |                   |         |         |         |           |                 |                 |         |         |           |                    |             |            |         |
| 2010    | 9.993             | 0.000   | 0.000   | 0.000   | 9.993     | 0.000           | 0.000           | 0.000   | 0.000   | 9.993     | 9.993              | 10          | 0          | 1.00    |
| 2011    | 31.124            | 0.000   | 0.000   | 0.000   | 31.124    | 0.000           | 0.000           | 0.000   | 0.000   | 31.124    | 38.812             | 39          | 0          | 1.00    |
| 2012    | 53.801            | 0.000   | 0.000   | 0.000   | 53.801    | 0.000           | 0.000           | 0.000   | 0.000   | 53.801    | 84.937             | 85          | 0          | 1.00    |
| 2013    | 77.084            | 0.000   | 0.000   | 0.000   | 77.084    | 0.000           | 0.000           | 0.000   | 0.000   | 77.084    | 146.129            | 146         | 0          | 1.00    |
| 2014    | 101.161           | 0.000   | 0.000   | 0.000   | 101.161   | 0.000           | 0.000           | 0.000   | 0.000   | 101.161   | 220.486            | 220         | 0          | 1.00    |
| 2015    | 127.127           | 0.000   | 0.000   | 0.000   | 127.127   | 0.000           | 0.000           | 0.000   | 0.000   | 127.127   | 307.006            | 307         | 0          | 1.00    |
| 2016    | 153.876           | 0.000   | 0.000   | 0.000   | 153.876   | 0.000           | 0.000           | 0.000   | 0.000   | 153.876   | 403.974            | 404         | 0          | 1.00    |
| 2017    | 182.368           | 0.000   | 0.000   | 0.000   | 182.368   | 0.000           | 0.000           | 0.000   | 0.000   | 182.368   | 510.384            | 510         | 0          | 1.00    |
| 2018    | 212.158           | 0.000   | 0.000   | 0.000   | 212.158   | 0.000           | 0.000           | 0.000   | 0.000   | 212.158   | 625.006            | 625         | 0          | 1.00    |
| 2019    | 244.740           | 0.000   | 0.000   | 0.000   | 244.740   | 0.000           | 0.000           | 0.000   | 0.000   | 244.740   | 747.437            | 747         | 0          | 1.00    |
| NOMINAL | 1,193.432         | 0.000   | 0.000   | 0.000   | 1,193.432 | 0.000           | 0.000           | 0.000   | 0.000   | 1,193.432 |                    |             |            |         |
| NPV     | 747.437           | 0.000   | 0.000   | 0.000   | 747.437   | 0.000           | 0.000           | 0.000   | 0.000   | 747.437   |                    |             |            |         |

In-service year of generation unit:

Discount rate:

2018 8.00%

Benefit/Cost Ratio:

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Insulation

| (1)     | (2)<br>SAVINGS IN | (3)            | (4)     | (5)      | (6)       | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|----------------|---------|----------|-----------|------------------|-----------------|---------|---------|----------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX            | UTILITY | OTHER    | TOTAL     | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET      | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | <b>CREDITS</b> | REBATES | BENEFITS | BENEFITS  | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000)        | \$(000) | \$(000)  | \$(000)   | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |                |         |          |           |                  |                 |         |         |          |                    |            |            |         |
| 2010    | 6.144             | 60.750         | 22.500  | 0.000    | 89.394    | 129.701          | 0.000           | 0.000   | 129.701 | (40.307) | (40.307)           | 89         | 130        | 0.69    |
| 2011    | 19.138            | 62.269         | 22.500  | 0.000    | 103.907   | 132.944          | 0.000           | 0.000   | 132.944 | (29.037) | (67.193)           | 186        | 253        | 0.73    |
| 2012    | 33.081            | 63.825         | 22.500  | 0.000    | 119.407   | 136.267          | 0.000           | 0.000   | 136.267 | (16.861) | (81.648)           | 288        | 370        | 0.78    |
| 2013    | 47.398            | 65.421         | 22.500  | 0.000    | 135.319   | 139.674          | 0.000           | 0.000   | 139.674 | (4.355)  | (85.106)           | 395        | 481        | 0.82    |
| 2014    | 62.202            | 67.057         | 22.500  | 0.000    | 151.759   | 143.166          | 0.000           | 0.000   | 143.166 | 8.593    | (78.789)           | 507        | 586        | 0.87    |
| 2015    | 78.169            | 68.733         | 22.500  | 0.000    | 169.402   | 146.745          | 0.000           | 0.000   | 146.745 | 22.657   | (63.370)           | 622        | 686        | 0.91    |
| 2016    | 94.616            | 70.451         | 22.500  | 0.000    | 187.567   | 150.414          | 0.000           | 0.000   | 150.414 | 37.153   | (39.957)           | 740        | 780        | 0.95    |
| 2017    | 112.135           | 72.213         | 22.500  | 0.000    | 206.848   | 154.174          | 0.000           | 0.000   | 154.174 | 52.674   | (9.222)            | 861        | 870        | 0.99    |
| 2018    | 130.453           | 74.018         | 22,500  | 0.000    | 226.971   | 158.028          | 0.000           | 0.000   | 158.028 | 68.942   | 28.025             | 984        | 956        | 1.03    |
| 2019    | 150.487           | 75.868         | 22.500  | 0.000    | 248.855   | 161.979          | 0.000           | 0.000   | 161.979 | 86.876   | 71.485             | 1,108      | 1,037      | 1.07    |
|         |                   |                |         |          |           |                  |                 |         |         |          |                    |            |            |         |
| NOMINAL | 733.823           | 680.605        | 225.000 | 0.000    | 1,639.428 | 1,453.093        | 0.000           | 0.000   | ####### | 186.335  |                    |            |            |         |
| HOMINAL | 755.625           | 000.003        | 223.000 | 0.000    | 1,059.420 | 1,433.093        | 0.000           | 0.000   | ппинппп | 100.333  |                    |            |            |         |

0.000 0.000 ######

71.485

In-service year of generation unit: 2018
Discount rate: 8.00%

459.587 485.601

NPV

Benefit/Cost Ratio:

163.055

8.00% 1.07

0.000 1,108.244

1,036.759

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)<br>YEAR | (2)<br>SAVINGS IN<br>PARTICIPANTS<br>BILL<br>\$(000) | TAX CREDITS \$(000) | UTILITY<br>REBATES<br>\$(000) | OTHER BENEFITS \$(000) |           |           | (8)<br>CUSTOMER<br>O & M<br>COSTS<br>\$(000) | (9) OTHER COSTS \$(000) | COSTS   | (11)  NET BENEFITS \$(000) | (12)<br>CUMULATIVE<br>DISCOUNTED<br>NET BENEFITS<br>\$(000) |       |       | Benefit<br>to Cost<br>Ratio |
|-------------|--|---------------------|-------------------------------|------------------------|-----------|-----------|--|-------------------------|---------|----------------------------|---|-------|-------|-----------------------------|
|             |  |                     |                               |                        |           |           |  |                         |         |                            |   |       |       |                             |
| 2010        | 4.873  | 157.500             | 26.250                        | 0.000                  | 188.623   | 164.196   | 0.000  | 0.000                   | 164.196 | 24.427                     | 24.427  | 189   | 164   | 1.15                        |
| 2011        | 15.178   | 157.500             | 26.250                        | 0.000                  | 198.928   | 168.301   | 0.000  | 0.000                   | 168.301 | 30.627                     | 52.786  | 373   | 320   | 1.16                        |
| 2012        | 26.236   | 157.500             | 26.250                        | 0.000                  | 209.986   | 172.508   | 0.000  | 0.000                   | 172.508 | 37.478                     | 84.917  | 553   | 468   | 1.18                        |
| 2013        | 37.591   | 157.500             | 26.250                        | 0.000                  | 221.341   | 176.821   | 0.000  | 0.000                   | 176.821 | 44.520                     | 120.258   | 729   | 608   | 1.20                        |
| 2014        | 49.332   | 157.500             | 26.250                        | 0.000                  | 233.082   | 181.241   | 0.000  | 0.000                   | 181.241 | 51.840                     | 158.362   | 900   | 742   | 1.21                        |
| 2015        | 61.994   | 157.500             | 26.250                        | 0.000                  | 245.744   | 185.773   | 0.000  | 0.000                   | 185.773 | 59.972                     | 199.178   | 1,067 | 868   | 1.23                        |
| 2016        | 75.038   | 157.500             | 26.250                        | 0.000                  | 258.788   | 190.417   | 0.000  | 0.000                   | 190.417 | 68.372                     | 242.264   | 1,230 | 988   | 1.25                        |
| 2017        | 88.933   | 157.500             | 26.250                        | 0.000                  | 272.683   | 195.177   | 0.000  | 0.000                   | 195.177 | 77.505                     | 287.488   | 1,389 | 1,102 | 1.26                        |
| 2018        | 103.460  | 157.500             | 26.250                        | 0.000                  | 287.210   | 200.057   | 0.000  | 0.000                   | 200.057 | 87.153                     | 334.574   | 1,544 | 1,210 | 1.28                        |
| 2019        | 119.349  | 157.500             | 26.250                        | 0.000                  | 303.099   | 205.058   | 0.000  | 0.000                   | 205.058 | 98.041                     | 383.619   | 1,696 | 1,312 | 1.29                        |
| NOMINAL     | 581.984  | 1,575.000           | 262.500                       | 0.000                  | 2,419.484 | 1,839.549 | 0.000  | 0.000                   | ####### | 579.936                    |   |       |       |                             |

0.000 0.000 ###### 383.619

In-service year of generation unit: Discount rate:

364.492 1,141.385 190.231

NPV

Discount rate: 8.00% Benefit/Cost Ratio: 1.29

0.000 1,696.108

2018

1,312.489

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Gold Ring

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)     | (12)         |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|---------|----------|--------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |         |          | CUMULATIVE   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET      | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| 2010    | 0.469        | 0.000   | 4.200   | 0.000    | 4.669    | 0.000            | 0.000    | 0.000   | 0.000   | 4.669    | 4.669        | 5          | 0          | 1.00    |
| 2011    | 1.460        | 0.000   | 4.200   | 0.000    | 5.660    | 0.000            | 0.000    | 0.000   | 0.000   | 5.660    | 9.910        | 10         | 0          | 1.00    |
| 2012    | 2.524        | 0.000   | 4.200   | 0.000    | 6.724    | 0.000            | 0.000    | 0.000   | 0.000   | 6.724    | 15.675       | 16         | 0          | 1.00    |
| 2013    | 3.617        | 0.000   | 4.200   | 0.000    | 7.817    | 0.000            | 0.000    | 0.000   | 0.000   | 7.817    | 21.881       | 22         | 0          | 1.00    |
| 2014    | 4.747        | 0.000   | 4.200   | 0.000    | 8.947    | 0.000            | 0.000    | 0.000   | 0.000   | 8.947    | 28.457       | 28         | 0          | 1.00    |
| 2015    | 5.965        | 0.000   | 4.200   | 0.000    | 10.165   | 0.000            | 0.000    | 0.000   | 0.000   | 10.165   | 35.375       | 35         | 0          | 1.00    |
| 2016    | 7.220        | 0.000   | 4.200   | 0.000    | 11.420   | 0.000            | 0.000    | 0.000   | 0.000   | 11.420   | 42.572       | 43         | 0          | 1.00    |
| 2017    | 8.557        | 0.000   | 4.200   | 0.000    | 12.757   | 0.000            | 0.000    | 0.000   | 0.000   | 12.757   | 50.015       | 50         | 0          | 1.00    |
| 2018    | 9.955        | 0.000   | 4.200   | 0.000    | 14.155   | 0.000            | 0.000    | 0.000   | 0.000   | 14.155   | 57.663       | 58         | 0          | 1.00    |
| 2019    | 11.484       | 0.000   | 4.200   | 0.000    | 15.684   | 0.000            | 0.000    | 0.000   | 0.000   | 15.684   | 65.508       | 66         | 0          | 1.00    |
| 71      |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| NOMINAL | 55.999       | 0.000   | 42.000  | 0.000    | 97.999   | 0.000            | 0.000    | 0.000   | 0.000   | 97.999   |              |            |            |         |
| 7.2.21  |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| NPV     | 35.071       | 0.000   | 30.437  | 0.000    | 65.508   | 0.000            | 0.000    | 0.000   | 0.000   | 65.508   |              |            |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Benefit/Cost Ratio: 1.00

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Home Energy Fix Up

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)      | (6)     | (7)<br>CUSTOMER | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|----------|---------|-----------------|-----------------|---------|---------|----------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL   | EQUIPMENT       |                 | OTHER   | TOTAL   | NET      | DISCOUNTED         |            | DISCOUNTED | to Cost |
|         | BILL              | CREDITS | REBATES | BENEFITS |         | COSTS           | COSTS           |         |         | BENEFITS | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |         |         |          |         |                 |                 |         |         |          |                    |            |            |         |
| 2010    | 0.773             | 0.000   | 28.808  | 0.000    | 29.581  | 5.084           | 0.000           | 0.000   | 5.084   | 24.498   | 24.498             | 30         | 5          | 5.82    |
| 2011    | 2.409             | 0.000   | 29.528  | 0.000    | 31.937  | 5.211           | 0.000           | 0.000   | 5.211   | 26.727   | 49.245             | 59         | 10         | 5.97    |
| 2012    | 4.164             | 0.000   | 30.266  | 0.000    | 34.431  | 5.341           | 0.000           | 0.000   | 5.341   | 29.090   | 74.185             | 89         | 14         | 6.12    |
| 2013    | 5.966             | 0.000   | 31.023  | 0.000    | 36.989  | 5.474           | 0.000           | 0.000   | 5.474   | 31.515   | 99.202             | 118        | 19         | 6.27    |
| 2014    | 7.830             | 0.000   | 31.799  | 0.000    | 39.629  | 5.611           | 0.000           | 0.000   | 5.611   | 34.017   | 124.206            | 147        | 23         | 6.41    |
| 2015    | 9.840             | 0.000   | 32.594  | 0.000    | 42.433  | 5.752           | 0.000           | 0.000   | 5.752   | 36.682   | 149.171            | 176        | 27         | 6.55    |
| 2016    | 11.910            | 0.000   | 33.408  | 0.000    | 45.318  | 5.895           | 0.000           | 0.000   | 5.895   | 39.423   | 174.014            | 205        | 31         | 6.69    |
| 2017    | 14.115            | 0.000   | 34.244  | 0.000    | 48.359  | 6.043           | 0.000           | 0.000   | 6.043   | 42.316   | 198.705            | 233        | 34         | 6.82    |
| 2018    | 16.421            | 0.000   | 34.244  | 0.000    | 50.665  | 6.194           | 0.000           | 0.000   | 6.194   | 44.471   | 222.731            | 260        | 37         | 6.95    |
| 2019    | 18.943            | 0.000   | 34.244  | 0.000    | 53.187  | 6.349           | 0.000           | 0.000   | 6.349   | 46.838   | 246.162            | 287        | 41         | 7.06    |
| NOMINAL | 92.372            | 0.000   | 320.157 | 0.000    | 412.529 | 56.953          | 0.000           | 0.000   | 56.953  | 355.576  |                    |            |            |         |
| NPV     | 57.852            | 0.000   | 228.945 | 0.000    | 286.797 | 40.635          | 0.000           | 0.000   | 40.635  | 246.162  |                    |            |            |         |

In-service year of generation unit:

Discount rate:

2018 8.00%

Benefit/Cost Ratio:

# PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Duct Repair

| (1)<br>YEAR | (2)<br>SAVINGS IN<br>PARTICIPANTS<br>BILL<br>\$(000) | TAX CREDITS \$(000) | UTILITY<br>REBATES<br>\$(000) | OTHER<br>BENEFITS<br>\$(000) | (6) TOTAL BENEFITS \$(000) | (7)<br>CUSTOMER<br>EQUIPMENT<br>COSTS<br>\$(000) | (8)<br>CUSTOMER<br>O & M<br>COSTS<br>\$(000) | (9) OTHER COSTS \$(000) | TOTAL<br>COSTS | NET BENEFITS \$(000) | (12) CUMULATIVE DISCOUNTED NET BENEFITS \$(000) |     |     | Benefit<br>to Cost<br>Ratio |
|-------------|--|---------------------|-------------------------------|------------------------------|----------------------------|--|--|-------------------------|----------------|----------------------|---|-----|-----|-----------------------------|
| 2010        | 2.458  | 0.000               | 20.250                        | 0.000                        | 22.708                     | 60.750   | 0.000  | 0.000                   | 60.750         | (38.042)             | (38.042)  | 23  | 61  | 0.37                        |
| 2011        | 7.655  | 0.000               | 20.250                        | 0.000                        | 27.905                     | 62.269   | 0.000  | 0.000                   | 62.269         | (34.364)             | (69.860)  | 49  | 118 | 0.41                        |
| 2012        | 13.232   | 0.000               | 20.250                        | 0.000                        | 33.482                     | 63.825   | 0.000  | 0.000                   | 63.825         | (30.343)             | (95.875)  | 77  | 173 | 0.45                        |
| 2013        | 18.959   | 0.000               | 20.250                        | 0.000                        | 39.209                     | 65.421   | 0.000  | 0.000                   | 65.421         | (26.212)             | (116.682)                                       | 108 | 225 | 0.48                        |
| 2014        | 24.881   | 0.000               | 20.250                        | 0.000                        | 45.131                     | 67.057   | 0.000  | 0.000                   | 67.057         | (21.926)             | (132.798)                                       | 142 | 274 | 0.52                        |
| 2015        | 31.267   | 0.000               | 20.250                        | 0.000                        | 51.517                     | 68.733   | 0.000  | 0.000                   | 68.733         | (17.216)             | (144.515)                                       | 177 | 321 | 0.55                        |
| 2016        | 37.846   | 0.000               | 20.250                        | 0.000                        | 58.096                     | 70.451   | 0.000  | 0.000                   | 70.451         | (12.355)             | (152.301)                                       | 213 | 366 | 0.58                        |
| 2017        | 44.854   | 0.000               | 20.250                        | 0.000                        | 65.104                     | 72.213   | 0.000  | 0.000                   | 72.213         | (7.109)              | (156.449)                                       | 251 | 408 | 0.62                        |
| 2018        | 52.181   | 0.000               | 20.250                        | 0.000                        | 72.431                     | 74.018   | 0.000  | 0.000                   | 74.018         | (1.587)              | (157.306)                                       | 290 | 448 | 0.65                        |
| 2019        | 60.195   | 0.000               | 20.250                        | 0.000                        | 80.445                     | 75.868   | 0.000  | 0.000                   | 75.868         | 4.576                | (155.017)                                       | 331 | 486 | 0.68                        |
| NOMINAL     | 293.529  | 0.000               | 202.500                       | 0.000                        | 496.029                    | 680.605  | 0.000  | 0.000                   | 680.605        | (184.576)            |   |     |     |                             |

0.000 0.000 485.601 (155.017)

In-service year of generation unit: 2018
Discount rate: 8.00%

0.000 146.749

NPV

183.835

Benefit/Cost Ratio: 0.68

0.000

330.584

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)     | (12)              |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|---------|----------|-------------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |         |          | <b>CUMULATIVE</b> | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET      | DISCOUNTED        | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS | NET BENEFITS      | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)           | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |         |          |                   |            |            |         |
| 2010    | 0.531        | 19.500  | 1.950   | 0.000    | 21.981   | 8.462            | 0.000    | 0.000   | 8.462   | 13.519   | 13.519            | 22         | 8          | 2.60    |
| 2011    | 1.655        | 19.500  | 1.950   | 0.000    | 23.105   | 8.674            | 0.000    | 0.000   | 8.674   | 14.432   | 26.882            | 43         | 16         | 2.63    |
| 2012    | 2.861        | 19.500  | 1.950   | 0.000    | 24.311   | 8.891            | 0.000    | 0.000   | 8.891   | 15.421   | 40.103            | 64         | 24         | 2.66    |
| 2013    | 4.100        | 19.500  | 1.950   | 0.000    | 25.550   | 9.113            | 0.000    | 0.000   | 9.113   | 16.437   | 53.151            | 85         | 31         | 2.70    |
| 2014    | 5.380        | 19.500  | 1.950   | 0.000    | 26.830   | 9.341            | 0.000    | 0.000   | 9.341   | 17.490   | 66.006            | 104        | 38         | 2.73    |
| 2015    | 6.761        | 19.500  | 1.950   | 0.000    | 28.211   | 9.574            | 0.000    | 0.000   | 9.574   | 18.637   | 78.690            | 123        | 45         | 2.76    |
| 2016    | 8.184        | 19.500  | 1.950   | 0.000    | 29.634   | 9.814            | 0.000    | 0.000   | 9.814   | 19.820   | 91.181            | 142        | 51         | 2.79    |
| 2017    | 9.699        | 19.500  | 1.950   | 0.000    | 31.149   | 10.059           | 0.000    | 0.000   | 10.059  | 21.090   | 103.487           | 160        | 57         | 2.82    |
| 2018    | 11.284       | 19.500  | 1.950   | 0.000    | 32.734   | 10.310           | 0.000    | 0.000   | 10.310  | 22.423   | 115.601           | 178        | 62         | 2.85    |
| 2019    | 13.017       | 19.500  | 1.950   | 0.000    | 34.467   | 10.568           | 0.000    | 0.000   | 10.568  | 23.898   | 127.556           | 195        | 68         | 2.89    |
| NOMINAL | 63.473       | 195.000 | 19.500  | 0.000    | 277.973  | 94.805           | 0.000    | 0.000   | 94.805  | 183.168  |                   |            |            |         |
| NPV     | 39.753       | 141.314 | 14.131  | 0.000    | 195.199  | 67.642           | 0.000    | 0.000   | 67.642  | 127.556  |                   |            |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Discount rate: 8.00% Benefit/Cost Ratio: 2.89

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)     | (2)<br>SAVINGS IN   | (3)            | (4)     | (5)      | (6)             | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|---------------------|----------------|---------|----------|-----------------|------------------|-----------------|---------|---------|----------|--------------------|------------|------------|---------|
|         | <b>PARTICIPANTS</b> | TAX            | UTILITY | OTHER    | TOTAL           | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET      | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL                | <b>CREDITS</b> | REBATES | BENEFITS | <b>BENEFITS</b> | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)             | \$(000)        | \$(000) | \$(000)  | \$(000)         | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)            | \$(000)    | \$(000)    |         |
|         |                     |                |         |          |                 |                  |                 |         |         |          |                    |            |            |         |
| 2010    | 0.051               | 1.020          | 1.700   | 0.000    | 2.771           | 3.400            | 0.000           | 0.000   | 3.400   | (0.629)  | (0.629)            | 3          | 3          | 0.81    |
| 2011    | 0.158               | 1.020          | 1.700   | 0.000    | 2.878           | 3.400            | 0.000           | 0.000   | 3.400   | (0.522)  | (1.113)            | 5          | 7          | 0.83    |
| 2012    | 0.272               | 1.020          | 1.700   | 0.000    | 2.992           | 3.400            | 0.000           | 0.000   | 3.400   | (0.408)  | (1.463)            | 8          | 9          | 0.85    |
| 2013    | 0.390               | 1.020          | 1.700   | 0.000    | 3.110           | 3.400            | 0.000           | 0.000   | 3.400   | (0.290)  | (1.693)            | 10         | 12         | 0.86    |
| 2014    | 0.512               | 1.020          | 1.700   | 0.000    | 3.232           | 3.400            | 0.000           | 0.000   | 3.400   | (0.168)  | (1.816)            | 13         | 15         | 0.88    |
| 2015    | 0.643               | 1.020          | 1.700   | 0.000    | 3.363           | 3.400            | 0.000           | 0.000   | 3.400   | (0.037)  | (1.841)            | 15         | 17         | 0.89    |
| 2016    | 0.779               | 1.020          | 1.700   | 0.000    | 3.499           | 3.400            | 0.000           | 0.000   | 3.400   | 0.099    | (1.779)            | 17         | 19         | 0.91    |
| 2017    | 0.923               | 1.020          | 1.700   | 0.000    | 3.643           | 3.400            | 0.000           | 0.000   | 3.400   | 0.243    | (1.637)            | 19         | 21         | 0.92    |
| 2018    | 1.074               | 1.020          | 1.700   | 0.000    | 3.794           | 3.400            | 0.000           | 0.000   | 3.400   | 0.394    | (1.425)            | 22         | 23         | 0.94    |
| 2019    | 1.239               | 1.020          | 1.700   | 0.000    | 3.959           | 3.400            | 0.000           | 0.000   | 3.400   | 0.559    | (1.145)            | 23         | 25         | 0.95    |
| NOMINAL | 6.040               | 10.200         | 17.000  | 0.000    | 33.240          | 34.000           | 0.000           | 0.000   | 34.000  | (0.760)  |                    |            |            |         |

(1.145)

0.000 24.639

In-service year of generation unit: 2018
Discount rate: 8.00%
Benefit/Cost Ratio: 0.95

12.320

0.000

23.494

24.639

7.392

NPV

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)       | (12)         |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|---------|------------|--------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |         |            | CUMULATIVE   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET        | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS   | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)    | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |         |            |              |            |            |         |
| 2010    | 0.236        | 4.500   | 0.900   | 0.000    | 5.636    | 18.068           | 0.000    | 0.000   | 18.068  | (12.432)   | (12.432)     | 6          | 18         | 0.31    |
| 2011    | 0.737        | 4.500   | 0.900   | 0.000    | 6.137    | 18.520           | 0.000    | 0.000   | 18.520  | (12.383)   | (23.898)     | 11         | 35         | 0.32    |
| 2012    | 1.277        | 4.500   | 0.900   | 0.000    | 6.677    | 18.983           | 0.000    | 0.000   | 18.983  | (12.306)   | (34.449)     | 17         | 51         | 0.33    |
| 2013    | 1.833        | 4.500   | 0.900   | 0.000    | 7.233    | 19.458           | 0.000    | 0.000   | 19.458  | (12.225)   | (44.153)     | 23         | 67         | 0.34    |
| 2014    | 2.410        | 4.500   | 0.900   | 0.000    | 7.810    | 19.944           | 0.000    | 0.000   | 19.944  | (12.134)   | (53.072)     | 29         | 82         | 0.35    |
| 2015    | 3.035        | 4.500   | 0.900   | 0.000    | 8.435    | 20.443           | 0.000    | 0.000   | 20.443  | (12.008)   | (61.244)     | 34         | 96         | 0.36    |
| 2016    | 3.681        | 4.500   | 0.900   | 0.000    | 9.081    | 20.954           | 0.000    | 0.000   | 20.954  | (11.873)   | (68.726)     | 40         | 109        | 0.37    |
| 2017    | 4.371        | 4.500   | 0.900   | 0.000    | 9.771    | 21.478           | 0.000    | 0.000   | 21.478  | (11.706)   | (75.557)     | 46         | 121        | 0.38    |
| 2018    | 5.096        | 4.500   | 0.900   | 0.000    | 10.496   | 22.015           | 0.000    | 0.000   | 22.015  | (11.519)   | (81.780)     | 51         | 133        | 0.39    |
| 2019    | 5.890        | 4.500   | 0.900   | 0.000    | 11.290   | 22.565           | 0.000    | 0.000   | 22.565  | (11.275)   | (87.420)     | 57         | 144        | 0.39    |
| NOMINAL | 28.567       | 45.000  | 0.000   | 0.000    | 02.5/7   | 202 420          | 0.000    | 0.000   | 202 120 | ********** |              |            |            |         |
| NOMINAL | 28.307       | 45.000  | 9.000   | 0.000    | 82.567   | 202.428          | 0.000    | 0.000   | 202.428 | (119.861)  |              |            |            |         |
| NPV     | 17.876       | 32.611  | 6.522   | 0.000    | 57.009   | 144.429          | 0.000    | 0.000   | 144.429 | (87.420)   |              |            |            |         |

In-service year of generation unit: 2018 Discount rate: 8.00%

Benefit/Cost Ratio: 0.39

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)      | (12)         |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|---------|-----------|--------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |         |           | CUMULATIVÉ   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET       | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS  | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)   | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |         |           |              |            |            |         |
| 2010    | 0.277        | 6.000   | 1.200   | 0.000    | 7.477    | 19.379           | 0.000    | 0.000   | 19.379  | (11.902)  | (11.902)     | 7          | 19         | 0.39    |
| 2011    | 0.865        | 6.000   | 1.200   | 0.000    | 8.065    | 19.864           | 0.000    | 0.000   | 19.864  | (11.798)  | (22.826)     | 15         | 38         | 0.40    |
| 2012    | 1.499        | 6.000   | 1.200   | 0.000    | 8.699    | 20.360           | 0.000    | 0.000   | 20.360  | (11.661)  | (32.824)     | 22         | 55         | 0.41    |
| 2013    | 2.152        | 6.000   | 1.200   | 0.000    | 9.352    | 20.869           | 0.000    | 0.000   | 20.869  | (11.517)  | (41.967)     | 30         | 72         | 0.42    |
| 2014    | 2.830        | 6.000   | 1.200   | 0.000    | 10.030   | 21.391           | 0.000    | 0.000   | 21.391  | (11.362)  | (50.318)     | 37         | 88         | 0.43    |
| 2015    | 3.563        | 6.000   | 1.200   | 0.000    | 10.763   | 21.926           | 0.000    | 0.000   | 21.926  | (11.163)  | (57.916)     | 45         | 102        | 0.43    |
| 2016    | 4.321        | 6.000   | 1.200   | 0.000    | 11.521   | 22.474           | 0.000    | 0.000   | 22.474  | (10.953)  | (64.818)     | 52         | 117        | 0.44    |
| 2017    | 5.130        | 6.000   | 1.200   | 0.000    | 12.330   | 23.036           | 0.000    | 0.000   | 23.036  | (10.706)  | (71.065)     | 59         | 130        | 0.45    |
| 2018    | 5.980        | 6.000   | 1.200   | 0.000    | 13.180   | 23.612           | 0.000    | 0.000   | 23.612  | (10.432)  | (76.701)     | 66         | 143        | 0.46    |
| 2019    | 6.910        | 6.000   | 1.200   | 0.000    | 14.110   | 24.202           | 0.000    | 0.000   | 24.202  | (10.092)  | (81.749)     | 73         | 155        | 0.47    |
| NOMINAL | 33.526       | 60.000  | 12.000  | 0.000    | 105.526  | 217.113          | 0.000    | 0.000   | 217.113 | (111.587) |              |            |            |         |
| NPV     | 20.980       | 43.481  | 8.696   | 0.000    | 73.158   | 154.907          | 0.000    | 0.000   | 154.907 | (81.749)  |              |            |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%

Benefit/Cost Ratio: 0.47

| (1)     | (2)<br>SAVINGS IN | (3)            | (4)     | (5)      | (6)      | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)<br>CUMULATIVE |   | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|----------------|---------|----------|----------|------------------|-----------------|---------|---------|-----------|--------------------|---|------------|------------|---------|
|         | PARTICIPANTS      | TAX            | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET       | DISCOUNTED         | 4 | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | <b>CREDITS</b> | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS  | NET BENEFITS       |   | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000)        | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)            |   | \$(000)    | \$(000)    |         |
|         |                   |                |         |          |          |                  |                 |         |         |           |                    |   |            |            |         |
| 2010    | 0.378             | 10.500         | 2.100   | 0.000    | 12.978   | 25.996           | 0.000           | 0.000   | 25.996  | (13.018)  | (13.018)           |   | 13         | 26         | 0.50    |
| 2011    | 1.179             | 10.500         | 2.100   | 0.000    | 13.779   | 26.646           | 0.000           | 0.000   | 26.646  | (12.867)  | (24.932)           |   | 26         | 51         | 0.51    |
| 2012    | 2.042             | 10.500         | 2.100   | 0.000    | 14.642   | 27.312           | 0.000           | 0.000   | 27.312  | (12.669)  | (35.794)           |   | 38         | 74         | 0.52    |
| 2013    | 2.932             | 10.500         | 2.100   | 0.000    | 15.532   | 27.995           | 0.000           | 0.000   | 27.995  | (12.463)  | (45.687)           |   | 51         | 96         | 0.53    |
| 2014    | 3.855             | 10.500         | 2.100   | 0.000    | 16.455   | 28.695           | 0.000           | 0.000   | 28.695  | (12.239)  | (54.684)           |   | 63         | 117        | 0.53    |
| 2015    | 4.855             | 10.500         | 2.100   | 0.000    | 17.455   | 29.412           | 0.000           | 0.000   | 29.412  | (11.957)  | (62.821)           |   | 75         | 137        | 0.54    |
| 2016    | 5.888             | 10.500         | 2.100   | 0.000    | 18.488   | 30.147           | 0.000           | 0.000   | 30.147  | (11.659)  | (70.169)           |   | 86         | 156        | 0.55    |
| 2017    | 6.992             | 10.500         | 2.100   | 0.000    | 19.592   | 30.901           | 0.000           | 0.000   | 30.901  | (11.309)  | (76.767)           |   | 98         | 174        | 0.56    |
| 2018    | 8.150             | 10.500         | 2.100   | 0.000    | 20.750   | 31.673           | 0.000           | 0.000   | 31.673  | (10.923)  | (82.669)           |   | 109        | 192        | 0.57    |
| 2019    | 9.420             | 10.500         | 2.100   | 0.000    | 22.020   | 32.465           | 0.000           | 0.000   | 32.465  | (10.445)  | (87.894)           |   | 120        | 208        | 0.58    |
| NOMINAL | 45.692            | 105.000        | 21.000  | 0.000    | 171.692  | 291.242          | 0.000           | 0.000   | 291.242 | (119.550) |                    |   |            |            |         |
| NPV     | 28.592            | 76.092         | 15.218  | 0.000    | 119.903  | 207.797          | 0.000           | 0.000   | 207.797 | (87.894)  |                    |   |            |            |         |

In-service year of generation unit:

0.000 2018

Discount rate: Benefit/Cost Ratio: 8.00% 0.58

| (1)     | (2)<br>SAVINGS IN   | (3)            | (4)     | (5)      | (6)      | (7)<br>CUSTOMER | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|---------------------|----------------|---------|----------|----------|-----------------|-----------------|---------|---------|----------|--------------------|------------|------------|---------|
|         | <b>PARTICIPANTS</b> | TAX            | UTILITY | OTHER    | TOTAL    | EOUIPMENT       |                 | OTHER   | TOTAL   | NET      | DISCOUNTED         |            | DISCOUNTED | to Cost |
|         | BILL                | <b>CREDITS</b> | REBATES | BENEFITS | BENEFITS | COSTS           | COSTS           |         | COSTS   |          | NET BENEFITS       | BENEFITS   |            | Ratio   |
| YEAR    | \$(000)             | \$(000)        | \$(000) | \$(000)  | \$(000)  | \$(000)         | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)            | \$(000)    |            |         |
|         |                     |                |         |          |          |                 |                 |         |         |          |                    |            |            |         |
| 2010    | 0.171               | 6.000          | 0.800   | 0.000    | 6.971    | 10.518          | 0.000           | 0.000   | 10.518  | (3.547)  | (3.547)            | 7          | 11         | 0.66    |
| 2011    | 0.533               | 6.000          | 0.800   | 0.000    | 7.333    | 10.780          | 0.000           | 0.000   | 10.780  | (3.448)  | (6.739)            | 14         | 20         | 0.67    |
| 2012    | 0.923               | 6.000          | 0.800   | 0.000    | 7.723    | 11.050          | 0.000           | 0.000   | 11.050  | (3.327)  | (9.591)            | 20         | 30         | 0.68    |
| 2013    | 1.325               | 6.000          | 0.800   | 0.000    | 8.125    | 11.326          | 0.000           | 0.000   | 11.326  | (3.201)  | (12.132)           | 27         | 39         | 0.69    |
| 2014    | 1.743               | 6.000          | 0.800   | 0.000    | 8.543    | 11.609          | 0.000           | 0.000   | 11.609  | (3.067)  | (14.386)           | 33         | 47         | 0.70    |
| 2015    | 2.195               | 6.000          | 0.800   | 0.000    | 8.995    | 11.900          | 0.000           | 0.000   | 11.900  | (2.905)  | (16.363)           | 39         | 56         | 0.71    |
| 2016    | 2.661               | 6.000          | 0.800   | 0.000    | 9.461    | 12.197          | 0.000           | 0.000   | 12.197  | (2.736)  | (18.087)           | 45         | 63         | 0.71    |
| 2017    | 3.160               | 6.000          | 0.800   | 0.000    | 9.960    | 12.502          | 0.000           | 0.000   | 12.502  | (2.542)  | (19.570)           | 51         | 71         | 0.72    |
| 2018    | 3.684               | 6.000          | 0.800   | 0.000    | 10.484   | 12.815          | 0.000           | 0.000   | 12.815  | (2.331)  | (20.829)           | 57         | 78         | 0.73    |
| 2019    | 4.258               | 6.000          | 0.800   | 0.000    | 11.058   | 13.135          | 0.000           | 0.000   | 13.135  | (2.077)  | (21.868)           | 62         | 84         | 0.74    |
| NOMINAL | 20.653              | 60,000         | 8.000   | 0.000    | 88.653   | 117.832         | 0.000           | 0.000   | 117.832 | (29.178) |                    |            |            |         |

0.000 0.000 84.071

(21.868)

In-service year of generation unit: Discount rate:

12.924 43.481

NPV

2018

0.000

Benefit/Cost Ratio: 0.74

5.798

8.00%

62.203

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)      | (6)      | (7)<br>CUSTOMER | (8)<br>CUSTOMER | (9)     | (10)    | (11)     | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|----------|----------|-----------------|-----------------|---------|---------|----------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL    | EQUIPMENT       | O & M           | OTHER   | TOTAL   | NET      | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS           | COSTS           | COSTS   | COSTS   | BENEFITS | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)         | \$(000)         | \$(000) | \$(000) | \$(000)  | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |         |         |          |          |                 |                 |         |         |          |                    |            |            |         |
| 2010    | 0.024             | 1.500   | 0.100   | 0.000    | 1.624    | 1.592           | 0.000           | 0.000   | 1.592   | 0.032    | 0.032              | 2          | 2          | 1.02    |
| 2011    | 0.074             | 1.500   | 0.100   | 0.000    | 1.674    | 1.632           | 0.000           | 0.000   | 1.632   | 0.042    | 0.070              | 3          | 3          | 1.02    |
| 2012    | 0.128             | 1.500   | 0.100   | 0.000    | 1.728    | 1.673           | 0.000           | 0.000   | 1.673   | 0.055    | 0.118              | 5          | 5          | 1.03    |
| 2013    | 0.183             | 1.500   | 0.100   | 0.000    | 1.783    | 1.714           | 0.000           | 0.000   | 1.714   | 0.069    | 0.172              | 6          | 6          | 1.03    |
| 2014    | 0.241             | 1.500   | 0.100   | 0.000    | 1.841    | 1.757           | 0.000           | 0.000   | 1.757   | 0.083    | 0.233              | 7          | 7          | 1.03    |
| 2015    | 0.303             | 1.500   | 0.100   | 0.000    | 1.903    | 1.801           | 0.000           | 0.000   | 1.801   | 0.102    | 0.303              | 9          | 8          | 1.04    |
| 2016    | 0.368             | 1.500   | 0.100   | 0.000    | 1.968    | 1.846           | 0.000           | 0.000   | 1.846   | 0.121    | 0.379              | 10         | 10         | 1.04    |
| 2017    | 0.437             | 1.500   | 0.100   | 0.000    | 2.037    | 1.892           | 0.000           | 0.000   | 1.892   | 0.144    | 0.464              | 11         | 11         | 1.04    |
| 2018    | 0.509             | 1.500   | 0.100   | 0.000    | 2.109    | 1.940           | 0.000           | 0.000   | 1.940   | 0.169    | 0.555              | 12         | 12         | 1.05    |
| 2019    | 0.588             | 1.500   | 0.100   | 0.000    | 2.188    | 1.988           | 0.000           | 0.000   | 1.988   | 0.200    | 0.655              | 13         | 13         | 1.05    |
|         |                   |         |         |          |          |                 |                 |         |         |          |                    |            |            |         |
| NOMINAL | 2.853             | 15.000  | 1.000   | 0.000    | 18.853   | 17.835          | 0.000           | 0.000   | 17.835  | 1.018    |                    |            |            |         |

0.000 0.000 12.725

0.655

In-service year of generation unit:

Discount rate:

10.870

1.785

NPV

Discount rate: 8.00%
Benefit/Cost Ratio: 1.05

0.725

0.000

2018

13.380

### PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Indoor Lighting

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)        | (7)              | (8)      | (9)     | (10)    | (11)       | (12)              |            |            |         |
|---------|--------------|---------|---------|----------|------------|------------------|----------|---------|---------|------------|-------------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |            | CUSTOMER         | CUSTOMER |         |         |            | <b>CUMULATIVE</b> | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL      | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET        | DISCOUNTED        | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS   | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS   | NET BENEFITS      | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)    | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)    | \$(000)           | \$(000)    | \$(000)    |         |
|         |              |         |         |          |            |                  |          |         |         |            |                   |            |            |         |
| 2010    | 132.182      | 0.000   | 0.000   | 0.000    | 132.182    | 0.000            | 0.000    | 0.000   | 0.000   | 132.182    | 132.182           | 132        | 0          | 1.00    |
| 2011    | 414.413      | 0.000   | 0.000   | 0.000    | 414.413    | 0.000            | 0.000    | 0.000   | 0.000   | 414.413    | 515.898           | 516        | 0          | 1.00    |
| 2012    | 720.706      | 0.000   | 0.000   | 0.000    | 720.706    | 0.000            | 0.000    | 0.000   | 0.000   | 720.706    | 1,133.787         | 1,134      | 0          | 1.00    |
| 2013    | 1,034.767    | 0.000   | 0.000   | 0.000    | 1,034.767  | 0.000            | 0.000    | 0.000   | 0.000   | 1,034.767  | 1,955.219         | 1,955      | 0          | 1.00    |
| 2014    | 1,359.749    | 0.000   | 0.000   | 0.000    | 1,359.749  | 0.000            | 0.000    | 0.000   | 0.000   | 1,359.749  | 2,954.675         | 2,955      | 0          | 1.00    |
| 2015    | 1,714.597    | 0.000   | 0.000   | 0.000    | 1,714.597  | 0.000            | 0.000    | 0.000   | 0.000   | 1,714.597  | 4,121.600         | 4,122      | 0          | 1.00    |
| 2016    | 2,080.060    | 0.000   | 0.000   | 0.000    | 2,080.060  | 0.000            | 0.000    | 0.000   | 0.000   | 2,080.060  | 5,432.391         | 5,432      | 0          | 1.00    |
| 2017    | 2,472.742    | 0.000   | 0.000   | 0.000    | 2,472.742  | 0.000            | 0.000    | 0.000   | 0.000   | 2,472.742  | 6,875.212         | 6,875      | 0          | 1.00    |
| 2018    | 2,884.864    | 0.000   | 0.000   | 0.000    | 2,884.864  | 0.000            | 0.000    | 0.000   | 0.000   | 2,884.864  | 8,433.814         | 8,434      | 0          | 1.00    |
| 2019    | 3,342.249    | 0.000   | 0.000   | 0.000    | 3,342.249  | 0.000            | 0.000    | 0.000   | 0.000   | 3,342.249  | 10,105.771        | 10,106     | 0          | 1.00    |
|         |              |         |         |          |            |                  |          |         |         | _          |                   |            |            |         |
| NOMINAL | 16,156.328   | 0.000   | 0.000   | 0.000    | 16,156.328 | 0.000            | 0.000    | 0.000   | 0.000   | 16,156.328 |                   |            |            |         |
|         |              |         |         |          |            |                  |          |         |         |            |                   |            |            |         |
| NPV     | 10,105.771   | 0.000   | 0.000   | 0.000    | 10,105.771 | 0.000            | 0.000    | 0.000   | 0.000   | 10,105.771 |                   |            |            |         |

2018 In-service year of generation unit: Discount rate:

8.00% Benefit/Cost Ratio: 1.00

# PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)      | (6)      | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)            | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|----------|----------|------------------|-----------------|---------|---------|-----------------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET             | DISCOUNTED         | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL              | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS           | COSTS   | COSTS   | <b>BENEFITS</b> | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)         | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |         |         |          |          |                  |                 |         |         |                 |                    |            |            |         |
| 2010    | 0.018             | 0.748   | 0.934   | 0.000    | 1.700    | 2.492            | 0.000           | 0.000   | 2.492   | (0.792)         | (0.792)            | 2          | 2          | 0.68    |
| 2011    | 0.057             | 0.748   | 0.934   | 0.000    | 1.739    | 2.554            | 0.000           | 0.000   | 2.554   | (0.816)         | (1.547)            | 3          | 5          | 0.68    |
| 2012    | 0.100             | 0.748   | 0.934   | 0.000    | 1.782    | 2.618            | 0.000           | 0.000   | 2.618   | (0.837)         | (2.265)            | 5          | 7          | 0.68    |
| 2013    | 0.143             | 0.748   | 0.934   | 0.000    | 1.825    | 2.684            | 0.000           | 0.000   | 2.684   | (0.859)         | (2.946)            | 6          | 9          | 0.68    |
| 2014    | 0.188             | 0.748   | 0.934   | 0.000    | 1.870    | 2.751            | 0.000           | 0.000   | 2.751   | (0.881)         | (3.594)            | 8          | 11         | 0.68    |
| 2015    | 0.238             | 0.748   | 0.934   | 0.000    | 1.920    | 2.819            | 0.000           | 0.000   | 2.819   | (0.900)         | (4.206)            | 9          | 13         | 0.68    |
| 2016    | 0.289             | 0.748   | 0.934   | 0.000    | 1.970    | 2.890            | 0.000           | 0.000   | 2.890   | (0.919)         | (4.785)            | 10         | 15         | 0.68    |
| 2017    | 0.344             | 0.748   | 0.934   | 0.000    | 2.026    | 2.962            | 0.000           | 0.000   | 2.962   | (0.937)         | (5.332)            | 11         | 17         | 0.68    |
| 2018    | 0.402             | 0.748   | 0.934   | 0.000    | 2.083    | 3.036            | 0.000           | 0.000   | 3.036   | (0.953)         | (5.847)            | 13         | 18         | 0.68    |
| 2019    | 0.467             | 0.748   | 0.934   | 0.000    | 2.149    | 3.112            | 0.000           | 0.000   | 3.112   | (0.964)         | (6.329)            | 14         | 20         | 0.68    |
| NOMINAL | 2.246             | 7.476   | 9.340   | 0.000    | 19.063   | 27.919           | 0.000           | 0.000   | 27.919  | (8.856)         |                    |            |            |         |

0.000 0.000 19.920

(6.329)

In-service year of generation unit: 2018
Discount rate: 8.00%
Benefit/Cost Ratio: 0.68

6.769

0.000

13.591

19.920

5.418

NPV

## PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Energy Audit

| (1)     | (2)<br>SAVINGS IN | (3)     | (4)     | (5)      | (6)       | (7)<br>CUSTOMER  | (8)<br>CUSTOMER | (9)     | (10)    | (11)      | (12)<br>CUMULATIVE | CUMULATIVE | CUMULATIVE | Benefit |
|---------|-------------------|---------|---------|----------|-----------|------------------|-----------------|---------|---------|-----------|--------------------|------------|------------|---------|
|         | PARTICIPANTS      | TAX     | UTILITY | OTHER    | TOTAL     | <b>EQUIPMENT</b> | O & M           | OTHER   | TOTAL   | NET       | DISCOUNTED         |            | DISCOUNTED | to Cost |
|         | BILL              | CREDITS | REBATES | BENEFITS | BENEFITS  | COSTS            | COSTS           | COSTS   | COSTS   | BENEFITS  | NET BENEFITS       | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)           | \$(000) | \$(000) | \$(000)  | \$(000)   | \$(000)          | \$(000)         | \$(000) | \$(000) | \$(000)   | \$(000)            | \$(000)    | \$(000)    |         |
|         |                   |         |         |          |           |                  |                 |         |         |           |                    |            |            |         |
| 2010    | 9.083             | 0.000   | 0.000   | 0.000    | 9.083     | 0.000            | 0.000           | 0.000   | 0.000   | 9.083     | 9.083              | 9          | 0          | 1.00    |
| 2011    | 28.505            | 0.000   | 0.000   | 0.000    | 28.505    | 0.000            | 0.000           | 0.000   | 0.000   | 28.505    | 35.476             | 35         | 0          | 1.00    |
| 2012    | 49.617            | 0.000   | 0.000   | 0.000    | 49.617    | 0.000            | 0.000           | 0.000   | 0.000   | 49.617    | 78.015             | 78         | 0          | 1.00    |
| 2013    | 71.241            | 0.000   | 0.000   | 0.000    | 71.241    | 0.000            | 0.000           | 0.000   | 0.000   | 71.241    | 134.568            | 135        | 0          | 1.00    |
| 2014    | 93.601            | 0.000   | 0.000   | 0.000    | 93.601    | 0.000            | 0.000           | 0.000   | 0.000   | 93.601    | 203.368            | 203        | 0          | 1.00    |
| 2015    | 118.067           | 0.000   | 0.000   | 0.000    | 118.067   | 0.000            | 0.000           | 0.000   | 0.000   | 118.067   | 283.722            | 284        | 0          | 1.00    |
| 2016    | 143.243           | 0.000   | 0.000   | 0.000    | 143.243   | 0.000            | 0.000           | 0.000   | 0.000   | 143.243   | 373.990            | 374        | 0          | 1.00    |
| 2017    | 170.328           | 0.000   | 0.000   | 0.000    | 170.328   | 0.000            | 0.000           | 0.000   | 0.000   | 170.328   | 473.375            | 473        | 0          | 1.00    |
| 2018    | 198.759           | 0.000   | 0.000   | 0.000    | 198.759   | 0.000            | 0.000           | 0.000   | 0.000   | 198.759   | 580.758            | 581        | 0          | 1.00    |
| 2019    | 230.398           | 0.000   | 0.000   | 0.000    | 230.398   | 0.000            | 0.000           | 0.000   | 0.000   | 230.398   | 696.014            | 696        | 0          | 1.00    |
|         |                   |         |         |          |           |                  |                 |         |         |           |                    |            |            |         |
| NOMINAL | 1,112.843         | 0.000   | 0.000   | 0.000    | 1,112.843 | 0.000            | 0.000           | 0.000   | 0.000   | 1,112.843 |                    |            |            |         |
|         |                   |         |         |          |           |                  |                 |         |         |           |                    |            |            |         |

0.000 0.000 0.000

696.014

In-service year of generation unit: 2018
Discount rate: 8.00%

0.000

696.014

NPV

Benefit/Cost Ratio: 1.00

0.000

0.000

696.014

# PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Energy Efficiency Duct

| (1)     | (2)          | (3)     | (4)     | (5)      | (6)      | (7)              | (8)      | (9)     | (10)    | (11)     | (12)         |            |            |         |
|---------|--------------|---------|---------|----------|----------|------------------|----------|---------|---------|----------|--------------|------------|------------|---------|
|         | SAVINGS IN   |         |         |          |          | CUSTOMER         | CUSTOMER |         |         |          | CUMULATIVE   | CUMULATIVE | CUMULATIVE | Benefit |
|         | PARTICIPANTS | TAX     | UTILITY | OTHER    | TOTAL    | <b>EQUIPMENT</b> | O & M    | OTHER   | TOTAL   | NET      | DISCOUNTED   | DISCOUNTED | DISCOUNTED | to Cost |
|         | BILL         | CREDITS | REBATES | BENEFITS | BENEFITS | COSTS            | COSTS    | COSTS   | COSTS   | BENEFITS | NET BENEFITS | BENEFITS   | COSTS      | Ratio   |
| YEAR    | \$(000)      | \$(000) | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)  | \$(000) | \$(000) | \$(000)  | \$(000)      | \$(000)    | \$(000)    |         |
|         |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| 2010    | 0.237        | 0.000   | 1.500   | 0.000    | 1.737    | 4.500            | 0.000    | 0.000   | 4.500   | (2.763)  | (2.763)      | 2          | 5          | 0.39    |
| 2011    | 0.738        | 0.000   | 1.500   | 0.000    | 2.238    | 4.613            | 0.000    | 0.000   | 4.613   | (2.374)  | (4.962)      | 4          | 9          | 0.43    |
| 2012    | 1.278        | 0.000   | 1.500   | 0.000    | 2.778    | 4.728            | 0.000    | 0.000   | 4.728   | (1.950)  | (6.634)      | 6          | 13         | 0.48    |
| 2013    | 1.834        | 0.000   | 1.500   | 0.000    | 3.334    | 4.846            | 0.000    | 0.000   | 4.846   | (1.512)  | (7.834)      | 9          | 17         | 0.53    |
| 2014    | 2.412        | 0.000   | 1.500   | 0.000    | 3.912    | 4.967            | 0.000    | 0.000   | 4.967   | (1.055)  | (8.610)      | 12         | 20         | 0.58    |
| 2015    | 3.036        | 0.000   | 1.500   | 0.000    | 4.536    | 5.091            | 0.000    | 0.000   | 5.091   | (0.555)  | (8.988)      | 15         | 24         | 0.62    |
| 2016    | 3.682        | 0.000   | 1.500   | 0.000    | 5.182    | 5.219            | 0.000    | 0.000   | 5.219   | (0.037)  | (9.011)      | 18         | 27         | 0.67    |
| 2017    | 4.370        | 0.000   | 1.500   | 0.000    | 5.870    | 5.349            | 0.000    | 0.000   | 5.349   | 0.521    | (8.707)      | 21         | 30         | 0.71    |
| 2018    | 5.093        | 0.000   | 1.500   | 0.000    | 6.593    | 5.483            | 0.000    | 0.000   | 5.483   | 1.110    | (8.107)      | 25         | 33         | 0.76    |
| 2019    | 5.883        | 0.000   | 1.500   | 0.000    | 7.383    | 5.620            | 0.000    | 0.000   | 5.620   | 1.763    | (7.225)      | 29         | 36         | 0.80    |
|         |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| NOMINAL | 28.562       | 0.000   | 15.000  | 0.000    | 43.562   | 50.415           | 0.000    | 0.000   | 50.415  | (6.853)  |              |            |            |         |
|         |              |         |         |          |          |                  |          |         |         |          |              |            |            |         |
| NPV     | 17.875       | 0.000   | 10.870  | 0.000    | 28.745   | 35.970           | 0.000    | 0.000   | 35.970  | (7.225)  |              |            |            |         |

In-service year of generation unit: 2018
Discount rate: 8.00%
Benefit/Cost Ratio: 0.80

# PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Energy Efficiency Cool Roof

| (1)<br>YEAR | (2)<br>SAVINGS IN<br>PARTICIPANTS<br>BILL<br>\$(000) | TAX CREDITS \$(000) | (4) UTILITY REBATES \$(000) | OTHER<br>BENEFITS<br>\$(000) |           | (7)<br>CUSTOMER<br>EQUIPMENT<br>COSTS<br>\$(000) |       |       | COSTS   | (11)  NET BENEFITS \$(000) | (12)<br>CUMULATIVE<br>DISCOUNTED<br>NET BENEFITS<br>\$(000) | 5.7.8.0000000000000000000000000000000000 | CUMULATIVE<br>DISCOUNTED<br>COSTS<br>\$(000) | Benefit<br>to Cost<br>Ratio |
|-------------|--|---------------------|-----------------------------|------------------------------|-----------|--|-------|-------|---------|----------------------------|---|--|--|-----------------------------|
| 2010        | 31.645   | 10.500              | 30.217                      | 0.000                        | 72.362    | 411.157  | 0.000 | 0.000 | 411.157 | (338.795)                  | (338.795)   | 72                                       | 411  | 0.18                        |
| 2011        | 99.796   | 10.500              | 30.217                      | 0.000                        | 140.513   | 421.436  | 0.000 | 0.000 | 421.436 | (280.923)                  | (598.908)   | 202                                      | 801  | 0.25                        |
| 2012        | 174.474  | 10.500              | 30.217                      | 0.000                        | 215.191   | 431.971  | 0.000 | 0.000 | 431.971 | (216.781)                  | (784.763)   | 387                                      | 1,172  | 0.33                        |
| 2013        | 250.543  | 10.500              | 30.217                      | 0.000                        | 291.260   | 442.771  | 0.000 | 0.000 | 442.771 | (151.511)                  | (905.037)   | 618                                      | 1,523  | 0.41                        |
| 2014        | 328.952  | 10.500              | 30.217                      | 0.000                        | 369.669   | 453.840  | 0.000 | 0.000 | 453.840 | (84.171)                   | (966.905)   | 890                                      | 1,857  | 0.48                        |
| 2015        | 415.587  | 10.500              | 30.217                      | 0.000                        | 456.304   | 465.186  | 0.000 | 0.000 | 465.186 | (8.882)                    | (972.950)   | 1,200                                    | 2,173  | 0.55                        |
| 2016        | 504.384  | 10.500              | 30.217                      | 0.000                        | 545.101   | 476.816  | 0.000 | 0.000 | 476.816 | 68.285                     | (929.919)   | 1,544                                    | 2,474  | 0.62                        |
| 2017        | 600.496  | 10.500              | 30.217                      | 0.000                        | 641.213   | 488.736  | 0.000 | 0.000 | 488.736 | 152.477                    | (840.950)   | 1,918                                    | 2,759  | 0.70                        |
| 2018        | 701.444  | 10.500              | 30.217                      | 0.000                        | 742.161   | 500.955  | 0.000 | 0.000 | 500.955 | 241.206                    | (710.634)   | 2,319                                    | 3,030  | 0.77                        |
| 2019        | 815.262  | 10.500              | 30.217                      | 0.000                        | 855.979   | 513.478  | 0.000 | 0.000 | 513.478 | 342.500                    | (539.299)   | 2,747                                    | 3,287  | 0.84                        |
| NOMINAL     | 3,922.582  | 105.000             | 302.170                     | 0.000                        | 4,329.751 | 4,606.345  | 0.000 | 0.000 | ####### | (276.594)                  |   |  |  |                             |
| NPV         | 2,452.185  | 76.092              | 218.979                     | 0.000                        | 2,747.256 | 3,286.555  | 0.000 | 0.000 | ####### | (539.299)                  |   |  |  |                             |
|             | In-service   | ce year of get      | neration unit               | 2018                         |           |  |       |       |         |                            |   |  |  |                             |

In-service year of generation unit: 2018
Discount rate: 8.00%
Benefit/Cost Ratio: 0.84

# PARTICIPANT COSTS AND BENEFITS PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| (1)<br>YEAR | SAVINGS IN<br>PARTICIPANTS<br>BILL<br>\$(000) | (3) TAX CREDITS \$(000) | UTILITY<br>REBATES<br>\$(000) | OTHER<br>BENEFITS<br>\$(000) | TOTAL BENEFITS \$(000) | (7)<br>CUSTOMER<br>EQUIPMENT<br>COSTS<br>\$(000) | (8)<br>CUSTOMER<br>O & M<br>COSTS<br>\$(000) | (9)<br>OTHER<br>COSTS<br>\$(000) | (10) TOTAL COSTS \$(000) | (11) NET BENEFITS \$(000) | (12)<br>CUMULATIVE<br>DISCOUNTED<br>NET BENEFITS<br>\$(000) |    |    | Benefit<br>to Cost<br>Ratio |
|-------------|---|-------------------------|-------------------------------|------------------------------|------------------------|--|--|----------------------------------|--------------------------|---------------------------|---|----|----|-----------------------------|
| 2010        | 0.196   | 1.890                   | 0.700                         | 0.000                        | 2.786                  | 4.035  | 0.000  | 0.000                            | 4.035                    | (1.250)                   | (1.250)   | 3  | 4  | 0.69                        |
| 2011        | 0.612   | 1.937                   | 0.700                         | 0.000                        | 3.249                  | 4.136  | 0.000  | 0.000                            | 4.136                    | (0.887)                   | (2.071)   | 6  | 8  | 0.74                        |
| 2012        | 1.063   | 1.986                   | 0.700                         | 0.000                        | 3.748                  | 4.239  | 0.000  | 0.000                            | 4.239                    | (0.491)                   | (2.492)   | 9  | 11 | 0.78                        |
| 2013        | 1.526   | 2.035                   | 0.700                         | 0.000                        | 4.261                  | 4.345  | 0.000  | 0.000                            | 4.345                    | (0.084)                   | (2.558)   | 12 | 15 | 0.83                        |
| 2014        | 2.006   | 2.086                   | 0.700                         | 0.000                        | 4.792                  | 4.454  | 0.000  | 0.000                            | 4.454                    | 0.338                     | (2.310)   | 16 | 18 | 0.87                        |
| 2015        | 2.528   | 2.138                   | 0.700                         | 0.000                        | 5.366                  | 4.565  | 0.000  | 0.000                            | 4.565                    | 0.801                     | (1.765)   | 20 | 21 | 0.92                        |
| 2016        | 3.066   | 2.192                   | 0.700                         | 0.000                        | 5.958                  | 4.680  | 0.000  | 0.000                            | 4.680                    | 1.278                     | (0.960)   | 23 | 24 | 0.96                        |
| 2017        | 3.643   | 2.247                   | 0.700                         | 0.000                        | 6.590                  | 4.797  | 0.000  | 0.000                            | 4.797                    | 1.793                     | 0.087   | 27 | 27 | 1.00                        |
| 2018        | 4.249   | 2.303                   | 0.700                         | 0.000                        | 7.252                  | 4.916  | 0.000  | 0.000                            | 4.916                    | 2.336                     | 1.349   | 31 | 30 | 1.05                        |
| 2019        | 4.918   | 2.360                   | 0.700                         | 0.000                        | 7.979                  | 5.039  | 0.000  | 0.000                            | 5.039                    | 2.939                     | 2.819   | 35 | 32 | 1.09                        |
| NOMINAL     | 23.807  | 21.174                  | 7.000                         | 0.000                        | 51.981                 | 45.207   | 0.000  | 0.000                            | 45.207                   | 6.774                     |   |    |    |                             |

0.000 0.000 32.255

2.819

In-service year of generation unit: 2018
Discount rate: 8.00%
Benefit/Cost Ratio: 1.09

5.073

0.000

35.074

32.255

15.108

NPV

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency Window Film/Solar Screen Rev 1

| (1)     | (2)              | (3)     | (4)               | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)             | (10)    | (11)     | (12)     | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|------------------|---------|-------------------|---------|---------|---------|-----------------|-----------------|---------|----------|----------|------------------|--------------------|
|         | <b>INCREASED</b> | UTILITY |                   |         |         |         | GEN UNIT        | AVOIDED         |         |          |          | BENEFITS         | DISCOUNTED         |
|         | SUPPLY           | PROGRAM |                   | REVENUE | OTHER   | TOTAL   | & FUEL          | T & D           | REVENUE | OTHER    | TOTAL    | TO ALL           | NET                |
|         | COSTS            | COSTS   | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | BENEFITS | BENEFITS | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)          | \$(000) | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)            |
|         |                  |         |                   |         |         |         |                 |                 |         |          |          |                  |                    |
| 2010    | 0.000            | 3.006   | 9.000             | 0.571   | 0.000   | 12.577  | 0.186           | 0.000           | 0.000   | 0.000    | 0.186    | (12.391)         | (12.391)           |
| 2011    | 0.000            | 3.082   | 9.000             | 1.778   | 0.000   | 13.860  | 0.588           | 0.000           | 0.000   | 0.000    | 0.588    | (13.272)         | (24.681)           |
| 2012    | 0.000            | 3.159   | 9.000             | 3.074   | 0.000   | 15.233  | 1.052           | 0.000           | 0.000   | 0.000    | 1.052    | (14.181)         | (36.839)           |
| 2013    | 0.000            | 3.238   | 9.000             | 4.405   | 0.000   | 16.642  | 1.538           | 0.000           | 0.000   | 0.000    | 1.538    | (15.105)         | (48.829)           |
| 2014    | 0.000            | 3,319   | 9.000             | 5.780   | 0.000   | 18.099  | 2.061           | 0.000           | 0.000   | 0.000    | 2.061    | (16.038)         | (60.618)           |
| 2015    | 0.000            | 3.401   | 9.000             | 7.264   | 0.000   | 19.666  | 2.652           | 0.000           | 0.000   | 0.000    | 2.652    | (17.014)         | (72.197)           |
| 2016    | 0.000            | 3.487   | 9.000             | 8.793   | 0.000   | 21.279  | 3.272           | 0.000           | 0.000   | 0.000    | 3.272    | (18.007)         | (83.545)           |
| 2017    | 0.000            | 3.574   | 9.000             | 10.421  | 0.000   | 22.994  | 4.000           | 0.000           | 0.000   | 0.000    | 4.000    | (18.994)         | (94.627)           |
| 2018    | 0.000            | 3.663   | 9.000             | 12.123  | 0.000   | 24.786  | 8.523           | 0.000           | 0.000   | 0.000    | 8.523    | (16.263)         | (103.414)          |
| 2019    | 0.000            | 3.755   | 9.000             | 13.985  | 0.000   | 26.739  | 9.542           | 0.000           | 0.000   | 0.000    | 9.542    | (17.197)         | (112.016)          |
|         |                  |         |                   |         |         |         |                 |                 |         |          |          |                  |                    |
| NOMINAL | 0.000            | 33.682  | 90.000            | 68.193  | 0.000   | 191.876 | 33.413          | 0.000           | 0.000   | 0.000    | 33.413   | (158.462)        |                    |
|         |                  |         |                   |         |         |         |                 |                 |         |          |          |                  |                    |
| NPV     | 0.000            | 24.032  | 65.222            | 42.709  | 0.000   | 131.963 | 19.946          | 0.000           | 0.000   | 0.000    | 19.946   | (112.016)        |                    |
|         |                  |         |                   |         |         |         |                 |                 |         |          |          |                  |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Energy Efficiency Wall Insulation

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|-----------------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | GEN UNIT        | AVOIDED  |         |          |          |             | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL          | T&D      | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS     |         | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS        | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    |           |         |            |         |         |         |                 |          |         |          |          |             |                    |
| IEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
| 2010    | 0.000     | 0.113   | 2.100      | 0.021   | 0.000   | 2.234   | 0.007           | 0.000    | 0.000   | 0.000    | 0.007    | (2.227)     | (2.227)            |
| 2011    | 0.000     | 0.115   | 2.100      | 0.021   | 0.000   | 2.282   | 0.022           | 0.000    | 0.000   | 0.000    | 0.022    | (2.260)     |                    |
|         |           |         |            |         |         |         | Seattle Control |          |         |          |          |             | (4.320)            |
| 2012    | 0.000     | 0.119   | 2.100      | 0.115   | 0.000   | 2.334   | 0.039           | 0.000    | 0.000   | 0.000    | 0.039    | (2.294)     | (6.287)            |
| 2013    | 0.000     | 0.121   | 2.100      | 0.165   | 0.000   | 2.387   | 0.058           | 0.000    | 0.000   | 0.000    | 0.058    | (2.329)     | (8.136)            |
| 2014    | 0.000     | 0.125   | 2.100      | 0.217   | 0.000   | 2.441   | 0.077           | 0.000    | 0.000   | 0.000    | 0.077    | (2.364)     | (9.874)            |
| 2015    | 0.000     | 0.128   | 2.100      | 0.272   | 0.000   | 2.500   | 0.099           | 0.000    | 0.000   | 0.000    | 0.099    | (2.401)     | (11.507)           |
| 2016    | 0.000     | 0.131   | 2.100      | 0.330   | 0.000   | 2.561   | 0.123           | 0.000    | 0.000   | 0.000    | 0.123    | (2.438)     | (13.044)           |
| 2017    | 0.000     | 0.134   | 2.100      | 0.391   | 0.000   | 2.625   | 0.150           | 0.000    | 0.000   | 0.000    | 0.150    | (2.475)     | (14.488)           |
| 2018    | 0.000     | 0.137   | 2.100      | 0.455   | 0.000   | 2.692   | 0.355           | 0.000    | 0.000   | 0.000    | 0.355    | (2.337)     | (15.750)           |
| 2019    | 0.000     | 0.141   | 2.100      | 0.525   | 0.000   | 2.765   | 0.394           | 0.000    | 0.000   | 0.000    | 0.394    | (2.371)     | (16.937)           |
|         |           |         |            |         |         |         |                 |          |         |          |          |             |                    |
| NOMINAL | 0.000     | 1.264   | 21.000     | 2.558   | 0.000   | 24.822  | 1.325           | 0.000    | 0.000   | 0.000    | 1.325    | (23.496)    |                    |
|         |           |         |            |         |         |         |                 |          |         |          |          |             |                    |
| NPV     | 0.000     | 0.902   | 15.218     | 1.602   | 0.000   | 17.722  | 0.786           | 0.000    | 0.000   | 0.000    | 0.786    | (16.937)    |                    |
|         |           |         |            |         |         |         |                 |          |         |          |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Single Family Survey Walk Through

| (1)     | (2)              | (3)            | (4)               | (5)       | (6)          | (7)            | (8)<br>AVOIDED  | (9)      | (10)    | (11)     | (12)      | (13)<br>NET ( | (14)<br>CUMULATIVE |
|---------|------------------|----------------|-------------------|-----------|--------------|----------------|-----------------|----------|---------|----------|-----------|---------------|--------------------|
|         | <b>INCREASED</b> | UTILITY        |                   |           |              |                | <b>GEN UNIT</b> | AVOIDED  |         |          |           | BENEFITS      | DISCOUNTED         |
|         | SUPPLY           | <b>PROGRAM</b> |                   | REVENUE   | <b>OTHER</b> | TOTAL          | & FUEL          | T & D    | REVENUE | OTHER    | TOTAL     | TO ALL        | NET                |
|         | COSTS            | COSTS          | <b>INCENTIVES</b> | LOSSES    | COSTS        | COSTS          | <b>BENEFITS</b> | BENEFITS | GAINS   | BENEFITS | BENEFITS  | CUSTOMERS     | BENEFIT            |
| YEAR    | \$(000)          | \$(000)        | \$(000)           | \$(000)   | \$(000)      | \$(000)        | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)   | \$(000)       | \$(000)            |
|         |                  |                |                   |           |              |                |                 |          |         |          |           |               |                    |
| 2010    | 0.000            | 442.109        | 0.000             | 31.498    | 0.000        | 473.607        | 10.269          | 0.000    | 0.000   | 0.000    | 10.269    | (463.338)     | (463.338)          |
| 2011    | 0.000            | 453.161        | 0.000             | 98.107    | 0.000        | 551.268        | 32.418          | 0.000    | 0.000   | 0.000    | 32.418    | (518.850)     | (943.755)          |
| 2012    | 0.000            | 464.490        | 0.000             | 169.584   | 0.000        | 634.074        | 58.010          | 0.000    | 0.000   | 0.000    | 58.010    | (576.064)     | (1,437.637)        |
| 2013    | 0.000            | 476.103        | 0.000             | 242.976   | 0.000        | 719.079        | 84.820          | 0.000    | 0.000   | 0.000    | 84.820    | (634.259)     | (1,941.132)        |
| 2014    | 0.000            | 488.005        | 0.000             | 318.869   | 0.000        | 806.874        | 113.665         | 0.000    | 0.000   | 0.000    | 113.665   | (693.208)     | (2,450.661)        |
| 2015    | 0.000            | 500.205        | 0.000             | 400.716   | 0.000        | 900.922        | 146.287         | 0.000    | 0.000   | 0.000    | 146.287   | (754.634)     | (2,964.253)        |
| 2016    | 0.000            | 512.710        | 0.000             | 485.029   | 0.000        | 997.740        | 180.512         | 0.000    | 0.000   | 0.000    | 180.512   | (817.228)     | (3,479.245)        |
| 2017    | 0.000            | 525.528        | 0.000             | 574.838   | 0.000        | ############## | 220.678         | 0.000    | 0.000   | 0.000    | 220.678   | (879.688)     | (3,992.534)        |
| 2018    | 0.000            | 538.666        | 0.000             | 668.739   | 0.000        | #########      | 259.046         | 0.000    | 0.000   | 0.000    | 259.046   | (948.360)     | (4,504.903)        |
| 2019    | 0.000            | 552.133        | 0.000             | 771.440   | 0.000        | #############  | 309.148         | 0.000    | 0.000   | 0.000    | 309.148   | (1,014.425)   | (5,012.369)        |
|         |                  |                |                   |           |              |                |                 |          |         |          |           |               |                    |
| NOMINAL | 0.000            | 4,953.112      | 0.000             | 3,761.797 | 0.000        | #########      | 1,414.854       | 0.000    | 0.000   | 0.000    | 1,414.854 | (7,300.055)   |                    |
|         |                  |                |                   |           |              |                |                 |          |         |          |           |               |                    |
| NPV     | 0.000            | 3,533.968      | 0.000             | 2,355.984 | 0.000        | #########      | 877.583         | 0.000    | 0.000   | 0.000    | 877.583   | (5,012.369)   |                    |
|         |                  |                |                   |           |              |                |                 |          |         |          |           |               |                    |

Discount rate: 8

8.00%

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Single Family Survey Video & DVDs

| (1)     | (2)       | (3)     | (4)               | (5)       | (6)     | (7)           | (8)<br>AVOIDED  | (9)             | (10)    | (11)            | (12)            | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|-----------|---------|-------------------|-----------|---------|---------------|-----------------|-----------------|---------|-----------------|-----------------|------------------|--------------------|
|         | INCREASED | UTILITY |                   |           |         |               | GEN UNIT        | AVOIDED         |         |                 |                 | BENEFITS         | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |                   | REVENUE   | OTHER   | TOTAL         | & FUEL          | T & D           | REVENUE | OTHER           | TOTAL           | TO ALL           | NET                |
|         | COSTS     | COSTS   | <b>INCENTIVES</b> | LOSSES    | COSTS   | COSTS         | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)           | \$(000)   | \$(000) | \$(000)       | \$(000)         | \$(000)         | \$(000) | \$(000)         | \$(000)         | \$(000)          | \$(000)            |
| 2010    | 0.000     | 70.200  | 0.000             | 14154     | 0.000   | 02.462        | 4 (14           | 0.000           | 0.000   | 0.000           | 4 (14           | (07.040)         | (07.040)           |
| 2010    | 0.000     | 78.309  | 0.000             | 14.154    | 0.000   | 92.463        | 4.614           | 0.000           | 0.000   | 0.000           | 4.614           | (87.849)         | (87.849)           |
| 2011    | 0.000     | 80.267  | 0.000             | 44.085    | 0.000   | 124.351       | 14.567          | 0.000           | 0.000   | 0.000           | 14.567          | (109.784)        | (189.501)          |
| 2012    | 0.000     | 82.273  | 0.000             | 76.203    | 0.000   | 158.477       | 26.067          | 0.000           | 0.000   | 0.000           | 26.067          | (132.409)        | (303.020)          |
| 2013    | 0.000     | 84.330  | 0.000             | 109.182   | 0.000   | 193.513       | 38.114          | 0.000           | 0.000   | 0.000           | 38.114          | (155.398)        | (426.381)          |
| 2014    | 0.000     | 86.439  | 0.000             | 143.285   | 0.000   | 229.723       | 51.076          | 0.000           | 0.000   | 0.000           | 51.076          | (178.647)        | (557.692)          |
| 2015    | 0.000     | 88.600  | 0.000             | 180.063   | 0.000   | 268.663       | 65.735          | 0.000           | 0.000   | 0.000           | 65.735          | (202.928)        | (695.801)          |
| 2016    | 0.000     | 90.815  | 0.000             | 217.949   | 0.000   | 308.764       | 81.114          | 0.000           | 0.000   | 0.000           | 81.114          | (227.650)        | (839.259)          |
| 2017    | 0.000     | 93.085  | 0.000             | 258.305   | 0.000   | 351.390       | 99.163          | 0.000           | 0.000   | 0.000           | 99.163          | (252.228)        | (986.432)          |
| 2018    | 0.000     | 95.412  | 0.000             | 300.500   | 0.000   | 395.912       | 116.403         | 0.000           | 0.000   | 0.000           | 116.403         | (279.509)        | (1,137.442)        |
| 2019    | 0.000     | 97.797  | 0.000             | 346.649   | 0.000   | 444.446       | 138.917         | 0.000           | 0.000   | 0.000           | 138.917         | (305.530)        | (1,290.283)        |
| NOMINAL | 0.000     | 877.327 | 0.000             | 1,690.375 | 0.000   | ###########   | 635.769         | 0.000           | 0.000   | 0.000           | 635.769         | (1,931.932)      |                    |
|         | 0.000     |         | 0.000             | 1,00000   | 0.000   |               | 000.100         | 3.000           | 3.000   | 3.000           | 023.703         | (1,7511752)      |                    |
| NPV     | 0.000     | 625.959 | 0.000             | 1,058.669 | 0.000   | ############# | 394.345         | 0.000           | 0.000   | 0.000           | 394.345         | (1,290.283)      |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.23

RATE IMPACT TEST
PROGRAM: Residential Single Family Survey On Line

| DISCOUNTED<br>NET |
|-------------------|
| NET               |
|                   |
| BENEFIT           |
| \$(000)           |
|                   |
| (82.621)          |
| (174.319)         |
| (273.737)         |
| (379.447)         |
| (490.119)         |
| (604.957)         |
| (722.947)         |
| (842.939)         |
| (965.057)         |
| (1,087.876)       |
|                   |
|                   |
|                   |
|                   |
|                   |

Benefit / Cost Ratio [col (12) / col (7)]: 0.21

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 18

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     |           | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|----------------|----------|---------|----------|----------|-----------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |         |          |          |           | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL    | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2010    | 0.000     | 7.481   | 9.000      | 2.442   | 0.000   | 18.923  | 0.796          | 0.000    | 0.000   | 0.000    | 0.796    | (18.127)  | (18.127)           |
| 2011    | 0.000     | 7.668   | 9.000      | 7.605   | 0.000   | 24.273  | 2.513          | 0.000    | 0.000   | 0.000    | 2.513    | (21.760)  | (38.275)           |
| 2012    | 0.000     | 7.860   | 9.000      | 13.146  | 0.000   | 30.006  | 4.497          | 0.000    | 0.000   | 0.000    | 4.497    | (25.509)  | (60.144)           |
| 2013    | 0.000     | 8.056   | 9.000      | 18.835  | 0.000   | 35.891  | 6.575          | 0.000    | 0.000   | 0.000    | 6.575    | (29.316)  | (83.416)           |
| 2014    | 0.000     | 8.257   | 9.000      | 24.718  | 0.000   | 41.976  | 8.811          | 0.000    | 0.000   | 0.000    | 8.811    | (33.165)  | (107.793)          |
| 2015    | 0.000     | 8.464   | 9.000      | 31.063  | 0.000   | 48.527  | 11.340         | 0.000    | 0.000   | 0.000    | 11.340   | (37.187)  | (133.102)          |
| 2016    | 0.000     | 8.676   | 9.000      | 37.599  | 0.000   | 55.274  | 13.993         | 0.000    | 0.000   | 0.000    | 13.993   | (41.281)  | (159.116)          |
| 2017    | 0.000     | 8.892   | 9.000      | 44.561  | 0.000   | 62.453  | 17.107         | 0.000    | 0.000   | 0.000    | 17.107   | (45.346)  | (185.576)          |
| 2018    | 0.000     | 9.115   | 9.000      | 51.840  | 0.000   | 69.955  | 44.037         | 0.000    | 0.000   | 0.000    | 44.037   | (25.917)  | (199.578)          |
| 2019    | 0.000     | 9.343   | 9.000      | 59.801  | 0.000   | 78.144  | 48.617         | 0.000    | 0.000   | 0.000    | 48.617   | (29.527)  | (214.349)          |
|         |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| NOMINAL | 0.000     | 83.811  | 90.000     | 291.611 | 0.000   | 465.421 | 158.286        | 0.000    | 0.000   | 0.000    | 158.286  | (307.135) |                    |
|         |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| NPV     | 0.000     | 59.798  | 65.222     | 182.633 | 0.000   | 307.653 | 93.304         | 0.000    | 0.000   | 0.000    | 93.304   | (214.349) |                    |
|         |           |         |            |         |         |         |                |          |         |          |          |           |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 17

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)        | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     |           | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|------------|----------------|----------|---------|----------|----------|-----------|--------------------|
|         | INCREASED | UTILITY |            |         |         |            | GEN UNIT       | AVOIDED  |         |          |          |           | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL      | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL    | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS      | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000)    | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |           |         |            |         |         |            |                |          |         |          |          |           |                    |
| 2010    | 0.000     | 17.954  | 21.600     | 5.003   | 0.000   | 44.557     | 1.631          | 0.000    | 0.000   | 0.000    | 1.631    | (42.926)  | (42.926)           |
| 2011    | 0.000     | 18.403  | 21.600     | 15.584  | 0.000   | 55.587     | 5.149          | 0.000    | 0.000   | 0.000    | 5.149    | (50.437)  | (89.627)           |
| 2012    | 0.000     | 18.863  | 21.600     | 26.938  | 0.000   | 67.401     | 9.215          | 0.000    | 0.000   | 0.000    | 9.215    | (58.186)  | (139.513)          |
| 2013    | 0.000     | 19.335  | 21.600     | 38.596  | 0.000   | 79.530     | 13.473         | 0.000    | 0.000   | 0.000    | 13.473   | (66.057)  | (191.951)          |
| 2014    | 0.000     | 19.818  | 21.600     | 50.651  | 0.000   | 92.069     | 18.055         | 0.000    | 0.000   | 0.000    | 18.055   | (74.014)  | (246.353)          |
| 2015    | 0.000     | 20.313  | 21.600     | 63.652  | 0.000   | 105.565    | 23.237         | 0.000    | 0.000   | 0.000    | 23.237   | (82.328)  | (302.384)          |
| 2016    | 0.000     | 20.821  | 21.600     | 77.045  | 0.000   | 119.466    | 28.674         | 0.000    | 0.000   | 0.000    | 28.674   | (90.792)  | (359.599)          |
| 2017    | 0.000     | 21.342  | 21.600     | 91.311  | 0.000   | 134.252    | 35.054         | 0.000    | 0.000   | 0.000    | 35.054   | (99.199)  | (417.480)          |
| 2018    | 0.000     | 21.875  | 21.600     | 106.226 | 0.000   | 149.702    | 94.221         | 0.000    | 0.000   | 0.000    | 94.221   | (55.480)  | (447.455)          |
| 2019    | 0.000     | 22.422  | 21.600     | 122.540 | 0.000   | 166.562    | 103.720        | 0.000    | 0.000   | 0.000    | 103.720  | (62.842)  | (478.892)          |
|         |           |         |            |         |         |            |                |          |         |          |          |           |                    |
| NOMINAL | 0.000     | 201.146 | 216.000    | 597.546 | 0.000   | ########## | 332.430        | 0.000    | 0.000   | 0.000    | 332.430  | (682.262) |                    |
|         |           |         |            |         |         |            |                |          |         |          |          |           |                    |
| NPV     | 0.000     | 143.515 | 156.533    | 374.238 | 0.000   | 674.286    | 195.394        | 0.000    | 0.000   | 0.000    | 195.394  | (478.892) |                    |
|         |           |         |            |         |         |            |                |          |         |          |          |           |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.29

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 16

| (1)     | (2)       | (3)            | (4)               | (5)     | (6)     | (7)       | (8)             | (9)      | (10)           | (11)            | (12)            | (13)             | (14)       |
|---------|-----------|----------------|-------------------|---------|---------|-----------|-----------------|----------|----------------|-----------------|-----------------|------------------|------------|
|         |           |                |                   |         |         |           | AVOIDED         |          |                |                 |                 | NET              | CUMULATIVE |
|         | INCREASED | UTILITY        |                   |         |         |           | <b>GEN UNIT</b> | AVOIDED  |                |                 |                 | BENEFITS         | DISCOUNTED |
|         | SUPPLY    | <b>PROGRAM</b> |                   | REVENUE | OTHER   | TOTAL     | & FUEL          | T & D    | <b>REVENUE</b> | OTHER           | TOTAL           | TO ALL           | NET        |
|         | COSTS     | COSTS          | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS     | BENEFITS        | BENEFITS | GAINS          | <b>BENEFITS</b> | <b>BENEFITS</b> | <b>CUSTOMERS</b> | BENEFIT    |
| YEAR    | \$(000)   | \$(000)        | \$(000)           | \$(000) | \$(000) | \$(000)   | \$(000)         | \$(000)  | \$(000)        | \$(000)         | \$(000)         | \$(000)          | \$(000)    |
|         |           |                |                   |         |         |           |                 |          |                |                 |                 |                  |            |
| 2010    | 0.000     | 27.430         | 33.000            | 6.100   | 0.000   | 66.529    | 1.989           | 0.000    | 0.000          | 0.000           | 1.989           | (64.541)         | (64.541)   |
| 2011    | 0.000     | 28.116         | 33.000            | 18.998  | 0.000   | 80.114    | 6.278           | 0.000    | 0.000          | 0.000           | 6.278           | (73.836)         | (132.907)  |
| 2012    | 0.000     | 28.818         | 33.000            | 32.839  | 0.000   | 94.658    | 11.233          | 0.000    | 0.000          | 0.000           | 11.233          | (83.424)         | (204.430)  |
| 2013    | 0.000     | 29.539         | 33.000            | 47.051  | 0.000   | 109.590   | 16.425          | 0.000    | 0.000          | 0.000           | 16.425          | (93.165)         | (278.388)  |
| 2014    | 0.000     | 30.277         | 33.000            | 61.748  | 0.000   | 125.025   | 22.011          | 0.000    | 0.000          | 0.000           | 22.011          | (103.014)        | (354.106)  |
| 2015    | 0.000     | 31.034         | 33.000            | 77.597  | 0.000   | 141.632   | 28.328          | 0.000    | 0.000          | 0.000           | 28.328          | (113.304)        | (431.219)  |
| 2016    | 0.000     | 31.810         | 33.000            | 93.924  | 0.000   | 158.734   | 34.955          | 0.000    | 0.000          | 0.000           | 34.955          | (123.779)        | (509.221)  |
| 2017    | 0.000     | 32.605         | 33.000            | 111.315 | 0.000   | 176.921   | 42.734          | 0.000    | 0.000          | 0.000           | 42.734          | (134.187)        | (587.518)  |
| 2018    | 0.000     | 33.421         | 33.000            | 129.499 | 0.000   | 195.919   | 110.976         | 0.000    | 0.000          | 0.000           | 110.976         | (84.943)         | (633.410)  |
| 2019    | 0.000     | 34.256         | 33.000            | 149.387 | 0.000   | 216.643   | 122.443         | 0.000    | 0.000          | 0.000           | 122.443         | (94.200)         | (680.533)  |
| NOMINAL | 0.000     | 207 207        | 220,000           | 720 450 | 0.000   |           | 207 271         | 0.000    | 0.000          | 0.000           | 207 271         | (069 202)        |            |
| NOMINAL | 0.000     | 307.307        | 330.000           | 728.458 | 0.000   | ######### | 397.371         | 0.000    | 0.000          | 0.000           | 397.371         | (968.393)        |            |
| NPV     | 0.000     | 219.259        | 239.147           | 456.228 | 0.000   | 914.633   | 234.100         | 0.000    | 0.000          | 0.000           | 234.100         | (680.533)        |            |

Benefit / Cost Ratio [col (12) / col (7)]: 0.26

RATE IMPACT TEST PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 15

| (1)     | (2)              | (3)       | (4)        | (5)       | (6)     | (7)           | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)      | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|-----------|------------|-----------|---------|---------------|----------------|----------|---------|----------|-----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY   |            |           |         |               | GEN UNIT       | AVOIDED  |         |          |           | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | PROGRAM   |            | REVENUE   | OTHER   | TOTAL         | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL     | TO ALL      | NET                |
|         | COSTS            | COSTS     | INCENTIVES | LOSSES    | COSTS   | COSTS         | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS  | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000)   | \$(000)    | \$(000)   | \$(000) | \$(000)       | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)   | \$(000)     | \$(000)            |
|         |                  |           |            |           |         |               |                |          |         |          |           |             |                    |
| 2010    | 0.000            | 95.506    | 76.600     | 16.680    | 0.000   | 188.786       | 5.438          | 0.000    | 0.000   | 0.000    | 5.438     | (183.348)   | (183.348)          |
| 2011    | 0.000            | 97.893    | 76.600     | 51.953    | 0.000   | 226.446       | 17.167         | 0.000    | 0.000   | 0.000    | 17.167    | (209.279)   | (377.125)          |
| 2012    | 0.000            | 100.341   | 76.600     | 89.804    | 0.000   | 266.744       | 30.720         | 0.000    | 0.000   | 0.000    | 30.720    | (236.025)   | (579.478)          |
| 2013    | 0.000            | 102.849   | 76.600     | 128.669   | 0.000   | 308.118       | 44.917         | 0.000    | 0.000   | 0.000    | 44.917    | (263.202)   | (788.416)          |
| 2014    | 0.000            | 105.420   | 76.600     | 168.858   | 0.000   | 350.878       | 60.192         | 0.000    | 0.000   | 0.000    | 60.192    | (290.687)   | (1,002.079)        |
| 2015    | 0.000            | 108.056   | 76.600     | 212.201   | 0.000   | 396.857       | 77.467         | 0.000    | 0.000   | 0.000    | 77.467    | (319.390)   | (1,219.451)        |
| 2016    | 0.000            | 110.757   | 76.600     | 256.849   | 0.000   | 444.206       | 95.591         | 0.000    | 0.000   | 0.000    | 95.591    | (348.616)   | (1,439.137)        |
| 2017    | 0.000            | 113.526   | 76.600     | 304.408   | 0.000   | 494.534       | 116.861        | 0.000    | 0.000   | 0.000    | 116.861   | (377.673)   | (1,659.506)        |
| 2018    | 0.000            | 116.364   | 76.600     | 354.134   | 0.000   | 547.098       | 306.570        | 0.000    | 0.000   | 0.000    | 306.570   | (240.528)   | (1,789.456)        |
| 2019    | 0.000            | 119.273   | 76.600     | 408.519   | 0.000   | 604.393       | 338.017        | 0.000    | 0.000   | 0.000    | 338.017   | (266.375)   | (1,922.710)        |
|         |                  |           |            |           |         |               |                |          |         |          |           |             |                    |
| NOMINAL | 0.000            | 1,069.986 | 766.000    | 1,992.075 | 0.000   | #########     | 1,092.939      | 0.000    | 0.000   | 0.000    | 1,092.939 | (2,735.122) |                    |
|         |                  |           |            |           |         |               |                |          |         |          |           |             |                    |
| NPV     | 0.000            | 763.418   | 555.112    | 1,247.621 | 0.000   | ############# | 643.441        | 0.000    | 0.000   | 0.000    | 643.441   | (1,922.710) |                    |
|         |                  |           |            |           |         |               |                |          |         |          |           |             |                    |

8.00% Discount rate:

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency (SF) Efficient Electric Heat Pump SEER 14

| (1)     | (2)         | (3)   | (4)        | (5)          | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)     | (11)     | (12)     |           | (14)<br>CUMULATIVE |
|---------|-------------|---|------------|--------------|---------|---------|----------------|----------|----------|----------|----------|-----------|--------------------|
|         | INCREASED   | UTILITY   |            | B ELLES ILLE | OTHER   | momili  | GEN UNIT       | AVOIDED  | DEVIENTE | OTHER    | TOTAL    |           | DISCOUNTED         |
|         | SUPPLY      | PROGRAM   |            | REVENUE      | OTHER   | TOTAL   | & FUEL         | T & D    |          | OTHER    | TOTAL    | TO ALL    | NET                |
|         | COSTS       |   | INCENTIVES | LOSSES       | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS    | BENEFITS | BENEFITS | CUSTOMERS | BENEFIT            |
| YEAR    | \$(000)     | \$(000)   | \$(000)    | \$(000)      | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000)  | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
|         |             |   |            |              |         |         |                |          |          |          |          |           |                    |
| 2010    | 0.000       | 22.443  | 9.000      | 2.228        | 0.000   | 33.670  | 0.726          | 0.000    | 0.000    | 0.000    | 0.726    | (32.944)  | (32.944)           |
| 2011    | 0.000       | 23.004  | 9.000      | 6.938        | 0.000   | 38.942  | 2.293          | 0.000    | 0.000    | 0.000    | 2.293    | (36.649)  | (66.878)           |
| 2012    | 0.000       | 23.579  | 9.000      | 11.993       | 0.000   | 44.572  | 4.102          | 0.000    | 0.000    | 0.000    | 4.102    | (40.469)  | (101.574)          |
| 2013    | 0.000       | 24.168  | 9.000      | 17.183       | 0.000   | 50.351  | 5.998          | 0.000    | 0.000    | 0.000    | 5.998    | (44.353)  | (136.783)          |
| 2014    | 0.000       | 24.772  | 9.000      | 22.550       | 0.000   | 56.322  | 8.038          | 0.000    | 0.000    | 0.000    | 8.038    | (48.284)  | (172.273)          |
| 2015    | 0.000       | 25.392  | 9.000      | 28.338       | 0.000   | 62.730  | 10.345         | 0.000    | 0.000    | 0.000    | 10.345   | (52.385)  | (207.925)          |
| 2016    | 0.000       | 26.027  | 9.000      | 34.301       | 0.000   | 69.327  | 12.766         | 0.000    | 0.000    | 0.000    | 12.766   | (56.562)  | (243.569)          |
| 2017    | 0.000       | 26.677  | 9.000      | 40.652       | 0.000   | 76.329  | 15.606         | 0.000    | 0.000    | 0.000    | 15.606   | (60.723)  | (279.000)          |
| 2018    | 0.000       | 27,344  | 9.000      | 47.293       | 0.000   | 83.637  | 39.327         | 0.000    | 0.000    | 0.000    | 39.327   | (44.309)  | (302.939)          |
| 2019    | 0.000       | 28.028  | 9.000      | 54.556       | 0.000   | 91.583  | 43.480         | 0.000    | 0.000    | 0.000    | 43.480   | (48.103)  | (327.002)          |
|         |             | and pypolice and all the day of the same your lawy or the |            |              |         |         |                |          |          |          |          |           |                    |
| NOMINAL | 0.000       | 251.433   | 90.000     | 266.031      | 0.000   | 607.463 | 142.683        | 0.000    | 0.000    | 0.000    | 142.683  | (464.781) |                    |
|         |             |   |            |              |         |         |                |          |          |          |          |           |                    |
| NPV     | 0.000       | 179.393   | 65.222     | 166.613      | 0.000   | 411.228 | 84.226         | 0.000    | 0.000    | 0.000    | 84.226   | (327.002) |                    |
|         | 7775,7-7-7- | me tellmet m  |            |              |         |         |                |          |          |          |          |           |                    |

Discount rate: 8.00% ol (12) / col (7)]: 0.20

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Multi Family Survey Walk Through

| (1)         | (2)       | (3)       | (4)        | (5)       | (6)     | (7)       | (8)<br>AVOIDED | (9)                                 | (10)    | (11)       | (12)      | (13)<br>NET     | (14)<br>CUMULATIVE |
|-------------|-----------|-----------|------------|-----------|---------|-----------|----------------|-------------------------------------|---------|------------|-----------|-----------------|--------------------|
|             | INCREASED | UTILITY   |            |           |         |           | GEN UNIT       | AVOIDED                             |         |            |           |                 | DISCOUNTED         |
|             | SUPPLY    | PROGRAM   |            | REVENUE   | OTHER   | TOTAL     | & FUEL         | T&D                                 | REVENUE | OTHER      | TOTAL     | TO ALL          | NET                |
|             | COSTS     |           | INCENTIVES | LOSSES    | COSTS   | COSTS     | BENEFITS       | BENEFITS                            | GAINS   | BENEFITS   | BENEFITS  | CUSTOMERS       | BENEFIT            |
| YEAR        | \$(000)   | \$(000)   | \$(000)    | \$(000)   | \$(000) | \$(000)   | \$(000)        | \$(000)                             | \$(000) | \$(000)    | \$(000)   | \$(000)         | \$(000)            |
| 26.4.15.021 | 0.0.20    |           | 2          |           |         |           |                | para a contributar por trong troppe |         | 3. sa exte | 5/ 5/ 0/5 | 00 200 1 V2/200 | 1000011001         |
| 2010        | 0.000     | 172.501   | 0.000      | 10.269    | 0.000   | 182.770   | 3.348          | 0.000                               | 0.000   | 0.000      | 3.348     | (179.422)       | (179.422)          |
| 2011        | 0.000     | 176.813   | 0.000      | 31.985    | 0.000   | 208.798   | 10.569         | 0.000                               | 0.000   | 0.000      | 10.569    | (198.229)       | (362.968)          |
| 2012        | 0.000     | 181.234   | 0.000      | 55.287    | 0.000   | 236.521   | 18.912         | 0.000                               | 0.000   | 0.000      | 18.912    | (217.609)       | (549.532)          |
| 2013        | 0.000     | 185.765   | 0.000      | 79.215    | 0.000   | 264.979   | 27.653         | 0.000                               | 0.000   | 0.000      | 27.653    | (237.327)       | (737.930)          |
| 2014        | 0.000     | 190.409   | 0.000      | 103.957   | 0.000   | 294.366   | 37.057         | 0.000                               | 0.000   | 0.000      | 37.057    | (257.309)       | (927.059)          |
| 2015        | 0.000     | 195.169   | 0.000      | 130.641   | 0.000   | 325.810   | 47.692         | 0.000                               | 0.000   | 0.000      | 47.692    | (278.117)       | (1,116.341)        |
| 2016        | 0.000     | 200.048   | 0.000      | 158.128   | 0.000   | 358.176   | 58.850         | 0.000                               | 0.000   | 0.000      | 58.850    | (299.326)       | (1,304.968)        |
| 2017        | 0.000     | 205.049   | 0.000      | 187.407   | 0.000   | 392.457   | 71.945         | 0.000                               | 0.000   | 0.000      | 71.945    | (320.512)       | (1,491.983)        |
| 2018        | 0.000     | 210.176   | 0.000      | 218.021   | 0.000   | 428.197   | 84.454         | 0.000                               | 0.000   | 0.000      | 84.454    | (343.743)       | (1,677.697)        |
| 2019        | 0.000     | 215.430   | 0.000      | 251.503   | 0.000   | 466.933   | 100.788        | 0.000                               | 0.000   | 0.000      | 100.788   | (366.146)       | (1,860.861)        |
| NOMINAL     | 0.000     | 1,932.594 | 0.000      | 1,226.413 | 0.000   | ######### | 461.268        | 0.000                               | 0.000   | 0.000      | 461.268   | (2,697.739)     |                    |
| NPV         | 0.000     | 1,378.876 | 0.000      | 768.093   | 0.000   | ######### | 286.108        | 0.000                               | 0.000   | 0.000      | 286.108   | (1,860.861)     |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST

PROGRAM: Residential Multi Family Survey Video & DVDs

| (1)     | (2)              | (3)            | (4)               | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)             | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|----------------|-------------------|---------|---------|---------|-----------------|-----------------|---------|----------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY        |                   |         |         |         | <b>GEN UNIT</b> | AVOIDED         |         |          |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | <b>PROGRAM</b> |                   | REVENUE | OTHER   | TOTAL   | & FUEL          | T & D           | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS          | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000)        | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |                  |                |                   |         |         |         | 47              | 15.0            |         |          |          |             |                    |
| 2010    | 0.000            | 25.997         | 0.000             | 4.629   | 0.000   | 30.626  | 1.509           | 0.000           | 0.000   | 0.000    | 1.509    | (29.117)    | (29.117)           |
| 2011    | 0.000            | 26.647         | 0.000             | 14.417  | 0.000   | 41.064  | 4.764           | 0.000           | 0.000   | 0.000    | 4.764    | (36.300)    | (62.728)           |
| 2012    | 0.000            | 27.313         | 0.000             | 24.921  | 0.000   | 52.234  | 8.525           | 0.000           | 0.000   | 0.000    | 8.525    | (43.709)    | (100.201)          |
| 2013    | 0.000            | 27.996         | 0.000             | 35.706  | 0.000   | 63.702  | 12.465          | 0.000           | 0.000   | 0.000    | 12.465   | (51.237)    | (140.875)          |
| 2014    | 0.000            | 28.696         | 0.000             | 46.859  | 0.000   | 75.555  | 16.704          | 0.000           | 0.000   | 0.000    | 16.704   | (58.851)    | (184.132)          |
| 2015    | 0.000            | 29.413         | 0.000             | 58.887  | 0.000   | 88.300  | 21.497          | 0.000           | 0.000   | 0.000    | 21.497   | (66.802)    | (229.597)          |
| 2016    | 0.000            | 30,148         | 0.000             | 71.277  | 0.000   | 101.425 | 26.527          | 0.000           | 0.000   | 0.000    | 26.527   | (74.898)    | (276.796)          |
| 2017    | 0.000            | 30.902         | 0.000             | 84.475  | 0.000   | 115.377 | 32.429          | 0.000           | 0.000   | 0.000    | 32.429   | (82.947)    | (325.194)          |
| 2018    | 0.000            | 31.675         | 0.000             | 98.274  | 0.000   | 129.948 | 38.068          | 0.000           | 0.000   | 0.000    | 38.068   | (91.881)    | (374.835)          |
| 2019    | 0.000            | 32.467         | 0.000             | 113.366 | 0.000   | 145.832 | 45.430          | 0.000           | 0.000   | 0.000    | 45.430   | (100.402)   | (425.061)          |
|         |                  |                |                   |         |         |         |                 |                 |         |          |          |             |                    |
| NOMINAL | 0.000            | 291.253        | 0.000             | 552.809 | 0.000   | 844.062 | 207.918         | 0.000           | 0.000   | 0.000    | 207.918  | (636.144)   |                    |
|         |                  |                |                   |         |         |         |                 |                 |         |          |          |             |                    |
| NPV     | 0.000            | 207.804        | 0.000             | 346.220 | 0.000   | 554.025 | 128.964         | 0.000           | 0.000   | 0.000    | 128.964  | (425.061)   |                    |
|         |                  |                |                   |         |         |         |                 |                 |         |          |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.23

RATE IMPACT TEST
PROGRAM: Residential Multi Family Survey On Line

| (1)     | (2)              | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)           | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|---------|------------|---------|---------|---------|----------------|----------|----------------|----------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |                |          |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | <b>REVENUE</b> | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS          | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000)        | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |                  |         |            |         |         |         | www.           |          |                |          |          |             |                    |
| 2010    | 0.000            | 26.960  | 0.000      | 3.367   | 0.000   | 30.327  | 1.098          | 0.000    | 0.000          | 0.000    | 1.098    | (29.229)    | (29.229)           |
| 2011    | 0.000            | 27.634  | 0.000      | 10.489  | 0.000   | 38.122  | 3.466          | 0.000    | 0.000          | 0.000    | 3.466    | (34.656)    | (61.318)           |
| 2012    | 0.000            | 28.324  | 0.000      | 18.130  | 0.000   | 46.455  | 6.202          | 0.000    | 0.000          | 0.000    | 6.202    | (40.253)    | (95.829)           |
| 2013    | 0.000            | 29.033  | 0.000      | 25.977  | 0.000   | 55.009  | 9.068          | 0.000    | 0.000          | 0.000    | 9.068    | (45.941)    | (132.298)          |
| 2014    | 0.000            | 29.758  | 0.000      | 34.090  | 0.000   | 63.848  | 12.152         | 0.000    | 0.000          | 0.000    | 12.152   | (51.697)    | (170.297)          |
| 2015    | 0.000            | 30.502  | 0.000      | 42.840  | 0.000   | 73.343  | 15.640         | 0.000    | 0.000          | 0.000    | 15.640   | (57.703)    | (209.568)          |
| 2016    | 0.000            | 31.265  | 0.000      | 51.854  | 0.000   | 83.119  | 19.298         | 0.000    | 0.000          | 0.000    | 19.298   | (63.821)    | (249.786)          |
| 2017    | 0.000            | 32.046  | 0.000      | 61.456  | 0.000   | 93.502  | 23.593         | 0.000    | 0.000          | 0.000    | 23.593   | (69.910)    | (290.578)          |
| 2018    | 0.000            | 32.848  | 0.000      | 71.495  | 0.000   | 104.342 | 27.695         | 0.000    | 0.000          | 0.000    | 27.695   | (76.648)    | (331.988)          |
| 2019    | 0.000            | 33.669  | 0.000      | 82.474  | 0.000   | 116.143 | 33.051         | 0.000    | 0.000          | 0.000    | 33.051   | (83.092)    | (373.555)          |
|         |                  |         |            |         |         |         |                |          |                |          |          |             |                    |
| NOMINAL | 0.000            | 302.038 | 0.000      | 402.172 | 0.000   | 704.211 | 151.262        | 0.000    | 0.000          | 0.000    | 151.262  | (552.949)   |                    |
|         |                  |         |            |         |         |         |                |          |                |          |          |             |                    |
| NPV     | 0.000            | 215.500 | 0.000      | 251.877 | 0.000   | 467.377 | 93.822         | 0.000    | 0.000          | 0.000    | 93.822   | (373.555)   |                    |
|         |                  |         |            |         |         |         |                |          |                |          |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.20

RATE IMPACT TEST PROGRAM: Residential Lighting Program (CFL)

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     |           | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|----------------|----------|---------|----------|----------|-----------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |         |          |          |           | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL    | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)   | \$(000)            |
| 2010    | 0.000     | 2.876   | 0.000      | 9.993   | 0.000   | 12.869  | 3.258          | 0.000    | 0.000   | 0.000    | 3.258    | (9.611)   | (9.611)            |
| 2011    | 0.000     | 2.948   | 0.000      | 31.124  | 0.000   | 34.072  | 10.285         | 0.000    | 0.000   | 0.000    | 10.285   | (23.788)  | (31.637)           |
| 2012    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2013    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2014    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2015    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2016    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2017    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2018    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| 2019    |           |         |            |         |         |         |                |          |         |          |          |           |                    |
| NOMINAL | 0.000     | 5.824   | 0.000      | 41.117  | 0.000   | 46.941  | 13.542         | 0.000    | 0.000   | 0.000    | 13.542   | (33.399)  |                    |
| NPV     | 0.000     | 5.606   | 0.000      | 38.812  | 0.000   | 44.417  | 12.781         | 0.000    | 0.000   | 0.000    | 12.781   | (31.637)  |                    |

Discount rate: 0.29

8.00%

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Energy Efficiency Insulation

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)      | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|----------|----------------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED | UTILITY |            |         |         |          | GEN UNIT       | AVOIDED  |         |          |          |             | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL    | & FUEL         | T&D      | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS     |         | INCENTIVES | LOSSES  | COSTS   | COSTS    | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) |         | \$(000)  |                |          |         |          |          |             |                    |
| TLAK    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000)  | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
| 2010    | 0.000     | 34.716  | 22.500     | 6.144   | 0.000   | 63.360   | 2.003          | 0.000    | 0.000   | 0.000    | 2.003    | (61.357)    | (61.357)           |
| 2011    | 0.000     | 35.584  | 22.500     | 19.138  | 0.000   | 77.222   | 6.324          | 0.000    | 0.000   | 0.000    | 6.324    | (70.898)    | (127.004)          |
| 2012    | 0.000     | 36.473  | 22.500     | 33.081  | 0.000   | 92.055   | 11.316         | 0.000    | 0.000   | 0.000    | 11.316   | (80.738)    | (196.224)          |
| 2013    | 0.000     | 37.385  | 22.500     | 47.398  | 0.000   | 107.283  | 16.546         | 0.000    | 0.000   | 0.000    | 16.546   | (90.737)    | (268.254)          |
| 2014    | 0.000     | 38.320  | 22.500     | 62.202  | 0.000   | 123.022  | 22.173         | 0.000    | 0.000   | 0.000    | 22.173   | (100.849)   | (342.381)          |
| 2015    | 0.000     | 39.278  | 22.500     | 78.169  | 0.000   | 139.947  | 28.537         | 0.000    | 0.000   | 0.000    | 28.537   | (111.410)   | (418.205)          |
| 2016    | 0.000     | 40.260  | 22.500     | 94.616  | 0.000   | 157.376  | 35.213         | 0.000    | 0.000   | 0.000    | 35.213   | (122.163)   | (495.188)          |
| 2017    | 0.000     | 41.266  | 22.500     | 112.135 | 0.000   | 175.901  | 43.048         | 0.000    | 0.000   | 0.000    | 43.048   | (132.853)   | (572.707)          |
| 2018    | 0.000     | 42.298  | 22.500     | 130.453 | 0.000   | 195.251  | 98.630         | 0.000    | 0.000   | 0.000    | 98.630   | (96.621)    | (624.908)          |
| 2019    | 0.000     | 43.356  | 22.500     | 150.487 | 0.000   | 216.342  | 109.799        | 0.000    | 0.000   | 0.000    | 109.799  | (106.543)   | (678.206)          |
| 2017    | 0.000     | 15.550  | 22.500     | 150.407 | 0.000   | 210.542  | 107.777        | 0.000    | 0.000   | 0.000    | 105.755  | (100.545)   | (070.200)          |
| NOMINAL | 0.000     | 388.936 | 225.000    | 733.823 | 0.000   | ######## | 373.589        | 0.000    | 0.000   | 0.000    | 373.589  | (974.170)   |                    |
| NPV     | 0.000     | 277.500 | 163.055    | 459.587 | 0.000   | 900.142  | 221.937        | 0.000    | 0.000   | 0.000    | 221.937  | (678.206)   |                    |

Discount rate: 8.00% ol (12) / col (7)]: 0.25

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Energy Efficiency High Performance Windows

| (1)     | (2)       | (3)            | (4)               | (5)     | (6)     | (7)       | (8)<br>AVOIDED | (9)             | (10)    | (11)     | (12)     | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|-----------|----------------|-------------------|---------|---------|-----------|----------------|-----------------|---------|----------|----------|------------------|--------------------|
|         | INCREASED | UTILITY        |                   |         |         |           | GEN UNIT       | AVOIDED         |         |          |          |                  | DISCOUNTED         |
|         | SUPPLY    | <b>PROGRAM</b> |                   | REVENUE | OTHER   | TOTAL     | & FUEL         | T & D           | REVENUE | OTHER    | TOTAL    | TO ALL           | NET                |
|         | COSTS     | COSTS          | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS     | BENEFITS       | <b>BENEFITS</b> | GAINS   | BENEFITS | BENEFITS | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)   | \$(000)        | \$(000)           | \$(000) | \$(000) | \$(000)   | \$(000)        | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)            |
|         |           |                |                   |         |         |           |                |                 |         |          |          |                  |                    |
| 2010    | 0.000     | 25.656         | 26.250            | 4.873   | 0.000   | 56.779    | 1.589          | 0.000           | 0.000   | 0.000    | 1.589    | (55.190)         | (55.190)           |
| 2011    | 0.000     | 26.297         | 26.250            | 15.178  | 0.000   | 67.725    | 5.015          | 0.000           | 0.000   | 0.000    | 5.015    | (62.710)         | (113.255)          |
| 2012    | 0.000     | 26.954         | 26.250            | 26.236  | 0.000   | 79.441    | 8.975          | 0.000           | 0.000   | 0.000    | 8.975    | (70.466)         | (173.668)          |
| 2013    | 0.000     | 27.628         | 26.250            | 37.591  | 0.000   | 91.469    | 13.122         | 0.000           | 0.000   | 0.000    | 13.122   | (78.347)         | (235.862)          |
| 2014    | 0.000     | 28.319         | 26.250            | 49.332  | 0.000   | 103.901   | 17.585         | 0.000           | 0.000   | 0.000    | 17.585   | (86.316)         | (299.306)          |
| 2015    | 0.000     | 29.027         | 26.250            | 61.994  | 0.000   | 117.271   | 22.632         | 0.000           | 0.000   | 0.000    | 22.632   | (94.640)         | (363.717)          |
| 2016    | 0.000     | 29.753         | 26.250            | 75.038  | 0.000   | 131.041   | 27.927         | 0.000           | 0.000   | 0.000    | 27.927   | (103.114)        | (428.696)          |
| 2017    | 0.000     | 30.497         | 26.250            | 88.933  | 0.000   | 145.679   | 34.141         | 0.000           | 0.000   | 0.000    | 34.141   | (111.538)        | (493.778)          |
| 2018    | 0.000     | 31.259         | 26.250            | 103.460 | 0.000   | 160.969   | 87.810         | 0.000           | 0.000   | 0.000    | 87.810   | (73.159)         | (533.303)          |
| 2019    | 0.000     | 32.040         | 26.250            | 119.349 | 0.000   | 177.639   | 96.946         | 0.000           | 0.000   | 0.000    | 96.946   | (80.693)         | (573.670)          |
| NOMINAL | 0.000     | 287.430        | 262.500           | 581.984 | 0.000   | ######### | 315.742        | 0.000           | 0.000   | 0.000    | 315.742  | (816.172)        |                    |
| NPV     | 0.000     | 205.077        | 190.231           | 364.492 | 0.000   | 759.800   | 186.130        | 0.000           | 0.000   | 0.000    | 186.130  | (573.670)        |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency Gold Ring

| (1)     | (2)              | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|---------|------------|---------|---------|---------|-----------------|----------|---------|----------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY |            |         |         |         | <b>GEN UNIT</b> | AVOIDED  |         |          |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL          | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS        | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |                  |         |            |         |         |         |                 |          |         |          |          |             |                    |
| 2010    | 0.000            | 2.469   | 4.200      | 0.469   | 0.000   | 7.137   | 0.153           | 0.000    | 0.000   | 0.000    | 0.153    | (6.985)     | (6.985)            |
| 2011    | 0.000            | 2.530   | 4.200      | 1.460   | 0.000   | 8.191   | 0.483           | 0.000    | 0.000   | 0.000    | 0.483    | (7.708)     | (14.122)           |
| 2012    | 0.000            | 2.594   | 4.200      | 2.524   | 0.000   | 9.318   | 0.864           | 0.000    | 0.000   | 0.000    | 0.864    | (8.454)     | (21.370)           |
| 2013    | 0.000            | 2.658   | 4.200      | 3.617   | 0.000   | 10.475  | 1.263           | 0.000    | 0.000   | 0.000    | 1.263    | (9.213)     | (28.684)           |
| 2014    | 0.000            | 2.725   | 4.200      | 4.747   | 0.000   | 11.672  | 1.692           | 0.000    | 0.000   | 0.000    | 1.692    | (9.980)     | (36.019)           |
| 2015    | 0.000            | 2.793   | 4.200      | 5.965   | 0.000   | 12.958  | 2.178           | 0.000    | 0.000   | 0.000    | 2.178    | (10.780)    | (43.356)           |
| 2016    | 0.000            | 2.863   | 4.200      | 7.220   | 0.000   | 14.283  | 2.687           | 0.000    | 0.000   | 0.000    | 2.687    | (11.596)    | (50.663)           |
| 2017    | 0.000            | 2.934   | 4.200      | 8.557   | 0.000   | 15.692  | 3.285           | 0.000    | 0.000   | 0.000    | 3.285    | (12.406)    | (57.902)           |
| 2018    | 0.000            | 3.008   | 4.200      | 9.955   | 0.000   | 17.163  | 10.417          | 0.000    | 0.000   | 0.000    | 10.417   | (6.746)     | (61.547)           |
| 2019    | 0.000            | 3.083   | 4.200      | 11.484  | 0.000   | 18.767  | 11.353          | 0.000    | 0.000   | 0.000    | 11.353   | (7.414)     | (65.256)           |
|         |                  |         |            |         |         |         |                 |          |         |          |          |             |                    |
| NOMINAL | 0.000            | 27.657  | 42.000     | 55.999  | 0.000   | 125.655 | 34.373          | 0.000    | 0.000   | 0.000    | 34.373   | (91.283)    |                    |
|         |                  |         |            |         |         |         |                 |          |         |          |          |             |                    |
| NPV     | 0.000            | 19.733  | 30.437     | 35.071  | 0.000   | 85.241  | 19.985          | 0.000    | 0.000   | 0.000    | 19.985   | (65.256)    |                    |
|         |                  |         |            |         |         |         |                 |          |         |          |          |             |                    |

Discount rate: 8.00% col (12) / col (7)]: 0.23

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST PROGRAM: Residential Home Energy Fix Up

| (1)      | (2)       | (3)     | (4)               | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     | (13)<br>NET      | (14)<br>CUMULATIVE |
|----------|-----------|---------|-------------------|---------|---------|---------|----------------|----------|---------|----------|----------|------------------|--------------------|
|          | INCREASED | UTILITY |                   |         |         |         | GEN UNIT       | AVOIDED  |         |          |          | BENEFITS         | DISCOUNTED         |
|          | SUPPLY    | PROGRAM |                   | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL           | NET                |
|          | COSTS     | COSTS   | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR     | \$(000)   | \$(000) | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)            |
|          |           |         |                   |         |         |         | _              |          |         |          |          |                  |                    |
| 2010     | 0.000     | 4.072   | 28.808            | 0.773   | 0.000   | 33.654  | 0.252          | 0.000    | 0.000   | 0.000    | 0.252    | (33.401)         | (33.401)           |
| 2011     | 0.000     | 4.174   | 29.528            | 2.409   | 0.000   | 36.111  | 0.796          | 0.000    | 0.000   | 0.000    | 0.796    | (35.315)         | (66.101)           |
| 2012     | 0.000     | 4.278   | 30.266            | 4.164   | 0.000   | 38.709  | 1.424          | 0.000    | 0.000   | 0.000    | 1.424    | (37.284)         | (98.066)           |
| 2013     | 0.000     | 4.385   | 31.023            | 5.966   | 0.000   | 41.375  | 2.083          | 0.000    | 0.000   | 0.000    | 2.083    | (39.292)         | (129.257)          |
| 2014     | 0.000     | 4.495   | 31.799            | 7.830   | 0.000   | 44.123  | 2.791          | 0.000    | 0.000   | 0.000    | 2.791    | (41.332)         | (159.638)          |
| 2015     | 0.000     | 4.607   | 32.594            | 9.840   | 0.000   | 47.041  | 3.592          | 0.000    | 0.000   | 0.000    | 3.592    | (43.448)         | (189.208)          |
| 2016     | 0.000     | 4.722   | 33.408            | 11.910  | 0.000   | 50.041  | 4.433          | 0.000    | 0.000   | 0.000    | 4.433    | (45.608)         | (217.949)          |
| 2017     | 0.000     | 4.840   | 34.244            | 14.115  | 0.000   | 53.199  | 5.419          | 0.000    | 0.000   | 0.000    | 5.419    | (47.781)         | (245.828)          |
| 2018     | 0.000     | 4.961   | 35.100            | 16.421  | 0.000   | 56.482  | 23.610         | 0.000    | 0.000   | 0.000    | 23.610   | (32.873)         | (263.588)          |
| 2019     | 0.000     | 5.086   | 35.977            | 18.943  | 0.000   | 60.006  | 25.340         | 0.000    | 0.000   | 0.000    | 25.340   | (34.665)         | (280.930)          |
| NOT WHAT | 0.000     |         |                   |         |         |         |                |          |         |          |          |                  |                    |
| NOMINAL  | 0.000     | 45.622  | 322.747           | 92.372  | 0.000   | 460.740 | 69.740         | 0.000    | 0.000   | 0.000    | 69.740   | (391.000)        |                    |
| NPV      | 0.000     | 32.550  | 230.275           | 57.852  | 0.000   | 320.677 | 39.747         | 0.000    | 0.000   | 0.000    | 39.747   | (280.930)        |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Energy Efficiency Duct Repair

| (1)     | (2)   | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|---|---------|------------|---------|---------|---------|----------------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED   | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |         |          |          |             | DISCOUNTED         |
|         | SUPPLY  | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS   | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         | and a second of the second of |         |            |         |         |         |                |          |         |          |          |             |                    |
| 2010    | 0.000   | 14.513  | 20.250     | 2.458   | 0.000   | 37.221  | 0.801          | 0.000    | 0.000   | 0.000    | 0.801    | (36.419)    | (36.419)           |
| 2011    | 0.000   | 14.876  | 20.250     | 7.655   | 0.000   | 42.781  | 2.530          | 0.000    | 0.000   | 0.000    | 2.530    | (40.251)    | (73.689)           |
| 2012    | 0.000   | 15.247  | 20.250     | 13.232  | 0.000   | 48.730  | 4.526          | 0.000    | 0.000   | 0.000    | 4.526    | (44.203)    | (111.586)          |
| 2013    | 0.000   | 15.629  | 20.250     | 18.959  | 0.000   | 54.838  | 6.618          | 0.000    | 0.000   | 0.000    | 6.618    | (48.219)    | (149.864)          |
| 2014    | 0.000   | 16.019  | 20.250     | 24.881  | 0.000   | 61.150  | 8.869          | 0.000    | 0.000   | 0.000    | 8.869    | (52.281)    | (188.293)          |
| 2015    | 0.000   | 16.420  | 20.250     | 31.267  | 0.000   | 67.937  | 11.415         | 0.000    | 0.000   | 0.000    | 11.415   | (56.523)    | (226.761)          |
| 2016    | 0.000   | 16.830  | 20.250     | 37.846  | 0.000   | 74.927  | 14.085         | 0.000    | 0.000   | 0.000    | 14.085   | (60.842)    | (265.102)          |
| 2017    | 0.000   | 17.251  | 20.250     | 44.854  | 0.000   | 82.355  | 17.219         | 0.000    | 0.000   | 0.000    | 17.219   | (65.136)    | (303.108)          |
| 2018    | 0.000   | 17.682  | 20.250     | 52.181  | 0.000   | 90.113  | 56.940         | 0.000    | 0.000   | 0.000    | 56.940   | (33.173)    | (321.030)          |
| 2019    | 0.000   | 18.124  | 20.250     | 60.195  | 0.000   | 98.569  | 61.915         | 0.000    | 0.000   | 0.000    | 61.915   | (36.654)    | (339.366)          |
|         |   |         |            |         |         |         |                |          |         |          |          |             |                    |
| NOMINAL | 0.000   | 162.592 | 202.500    | 293.529 | 0.000   | 658.621 | 184.920        | 0.000    | 0.000   | 0.000    | 184.920  | (473.701)   |                    |
|         |   |         |            |         |         |         |                |          |         |          |          |             |                    |
| NPV     | 0.000   | 116.007 | 146.749    | 183.835 | 0.000   | 446.591 | 107.225        | 0.000    | 0.000   | 0.000    | 107.225  | (339.366)   |                    |
|         |   |         |            |         |         |         |                |          |         |          |          |             |                    |

8.00%

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Residential Energy Efficiency Cool Reflective Roof

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)            | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|----------------|----------|---------|----------|-----------------|-------------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |         |          |                 | BENEFITS    | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL           | TO ALL      | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | <b>BENEFITS</b> | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)     | \$(000)            |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |
| 2010    | 0.000     | 2.798   | 1.950      | 0.531   | 0.000   | 5.280   | 0.173          | 0.000    | 0.000   | 0.000    | 0.173           | (5.106)     | (5.106)            |
| 2011    | 0.000     | 2.868   | 1.950      | 1.655   | 0.000   | 6.473   | 0.547          | 0.000    | 0.000   | 0.000    | 0.547           | (5.926)     | (10.594)           |
| 2012    | 0.000     | 2.940   | 1.950      | 2.861   | 0.000   | 7.751   | 0.979          | 0.000    | 0.000   | 0.000    | 0.979           | (6.772)     | (16.400)           |
| 2013    | 0.000     | 3.013   | 1.950      | 4.100   | 0.000   | 9.063   | 1.431          | 0.000    | 0.000   | 0.000    | 1.431           | (7.632)     | (22.458)           |
| 2014    | 0.000     | 3.089   | 1.950      | 5.380   | 0.000   | 10.419  | 1.918          | 0.000    | 0.000   | 0.000    | 1.918           | (8.501)     | (28.707)           |
| 2015    | 0.000     | 3.166   | 1.950      | 6.761   | 0.000   | 11.877  | 2.468          | 0.000    | 0.000   | 0.000    | 2.468           | (9.409)     | (35.110)           |
| 2016    | 0.000     | 3.245   | 1.950      | 8.184   | 0.000   | 13.379  | 3.046          | 0.000    | 0.000   | 0.000    | 3.046           | (10.333)    | (41.622)           |
| 2017    | 0.000     | 3.326   | 1.950      | 9.699   | 0.000   | 14.975  | 3.724          | 0.000    | 0.000   | 0.000    | 3.724           | (11.252)    | (48.187)           |
| 2018    | 0.000     | 3.409   | 1.950      | 11.284  | 0.000   | 16.643  | 9.329          | 0.000    | 0.000   | 0.000    | 9.329           | (7.314)     | (52.139)           |
| 2019    | 0.000     | 3.494   | 1.950      | 13.017  | 0.000   | 18.461  | 10.318         | 0.000    | 0.000   | 0.000    | 10.318          | (8.143)     | (56.212)           |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |
| NOMINAL | 0.000     | 31.348  | 19.500     | 63.473  | 0.000   | 114.322 | 33.933         | 0.000    | 0.000   | 0.000    | 33.933          | (80.388)    |                    |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |
| NPV     | 0.000     | 22.367  | 14.131     | 39.753  | 0.000   | 76.251  | 20.039         | 0.000    | 0.000   | 0.000    | 20.039          | (56.212)    |                    |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST

PROGRAM: Residential Energy Efficiency Caulk & Wthr Strip Rev 1

| (1)     | (2)              | (3)     | (4)        | (5)     | (6)          | (7)     | (8)<br>AVOIDED  | (9)             | (10)    | (11)            | (12)     | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|------------------|---------|------------|---------|--------------|---------|-----------------|-----------------|---------|-----------------|----------|------------------|--------------------|
|         | <b>INCREASED</b> | UTILITY |            |         |              |         | <b>GEN UNIT</b> | AVOIDED         |         |                 |          | BENEFITS         | DISCOUNTED         |
|         | SUPPLY           | PROGRAM |            | REVENUE | <b>OTHER</b> | TOTAL   | & FUEL          | T & D           | REVENUE | OTHER           | TOTAL    | TO ALL           | NET                |
|         | COSTS            | COSTS   | INCENTIVES | LOSSES  | COSTS        | COSTS   | BENEFITS        | <b>BENEFITS</b> | GAINS   | <b>BENEFITS</b> | BENEFITS | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)          | \$(000) | \$(000)    | \$(000) | \$(000)      | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000)         | \$(000)  | \$(000)          | \$(000)            |
|         |                  |         |            |         |              |         |                 |                 |         |                 |          |                  |                    |
| 2010    | 0.000            | 0.266   | 1.700      | 0.051   | 0.000        | 2.017   | 0.016           | 0.000           | 0.000   | 0.000           | 0.016    | (2.000)          | (2.000)            |
| 2011    | 0.000            | 0.273   | 1.700      | 0.158   | 0.000        | 2.130   | 0.052           | 0.000           | 0.000   | 0.000           | 0.052    | (2.078)          | (3.925)            |
| 2012    | 0.000            | 0.280   | 1.700      | 0.272   | 0.000        | 2.252   | 0.093           | 0.000           | 0.000   | 0.000           | 0.093    | (2.159)          | (5.776)            |
| 2013    | 0.000            | 0.287   | 1.700      | 0.390   | 0.000        | 2.377   | 0.136           | 0.000           | 0.000   | 0.000           | 0.136    | (2.241)          | (7.554)            |
| 2014    | 0.000            | 0.294   | 1.700      | 0.512   | 0.000        | 2.506   | 0.182           | 0.000           | 0.000   | 0.000           | 0.182    | (2.323)          | (9.262)            |
| 2015    | 0.000            | 0.301   | 1.700      | 0.643   | 0.000        | 2.645   | 0.235           | 0.000           | 0.000   | 0.000           | 0.235    | (2.410)          | (10.902)           |
| 2016    | 0.000            | 0.309   | 1.700      | 0.779   | 0.000        | 2.788   | 0.290           | 0.000           | 0.000   | 0.000           | 0.290    | (2.498)          | (12.476)           |
| 2017    | 0.000            | 0.316   | 1.700      | 0.923   | 0.000        | 2.939   | 0.354           | 0.000           | 0.000   | 0.000           | 0.354    | (2.585)          | (13.984)           |
| 2018    | 0.000            | 0.324   | 1.700      | 1.074   | 0.000        | 3.098   | 0.416           | 0.000           | 0.000   | 0.000           | 0.416    | (2.682)          | (15.434)           |
| 2019    | 0.000            | 0.333   | 1.700      | 1.239   | 0.000        | 3.271   | 0.496           | 0.000           | 0.000   | 0.000           | 0.496    | (2.775)          | (16.822)           |
|         |                  |         |            |         |              |         |                 |                 |         |                 |          | 18               |                    |
| NOMINAL | 0.000            | 2.983   | 17.000     | 6.040   | 0.000        | 26.023  | 2.272           | 0.000           | 0.000   | 0.000           | 2.272    | (23.751)         |                    |
| NPV     | 0.000            | 2.128   | 12.320     | 3.783   | 0.000        | 18.231  | 1.409           | 0.000           | 0.000   | 0.000           | 1.409    | (16.822)         |                    |

Discount rate: 8.00% ol (12) / col (7)]: 0.08

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST PROGRAM: Commercial Heat Pump SEER 18

| (1)     | (2)              | (3)            | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)      | (10)           | (11)            | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|----------------|------------|---------|---------|---------|-----------------|----------|----------------|-----------------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY        |            |         |         |         | <b>GEN UNIT</b> | AVOIDED  |                |                 |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | <b>PROGRAM</b> |            | REVENUE | OTHER   | TOTAL   | & FUEL          | T & D    | <b>REVENUE</b> | OTHER           | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS          | INCENTIVES | LOSSES  | COSTS   | COSTS   | <b>BENEFITS</b> | BENEFITS | GAINS          | <b>BENEFITS</b> | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000)        | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000)        | \$(000)         | \$(000)  | \$(000)     | \$(000)            |
|         |                  |                |            |         |         |         | _               |          |                |                 |          |             |                    |
| 2010    | 0.000            | 0.390          | 0.900      | 0.236   | 0.000   | 1.526   | 0.080           | 0.000    | 0.000          | 0.000           | 0.080    | (1.446)     | (1.446)            |
| 2011    | 0.000            | 0.399          | 0.900      | 0.737   | 0.000   | 2.036   | 0.251           | 0.000    | 0.000          | 0.000           | 0.251    | (1.785)     | (3.099)            |
| 2012    | 0.000            | 0.409          | 0.900      | 1.277   | 0.000   | 2.586   | 0.450           | 0.000    | 0.000          | 0.000           | 0.450    | (2.136)     | (4.930)            |
| 2013    | 0.000            | 0.419          | 0.900      | 1.833   | 0.000   | 3.153   | 0.658           | 0.000    | 0.000          | 0.000           | 0.658    | (2.495)     | (6.911)            |
| 2014    | 0.000            | 0.430          | 0.900      | 2.410   | 0.000   | 3.740   | 0.881           | 0.000    | 0.000          | 0.000           | 0.881    | (2.859)     | (9.012)            |
| 2015    | 0.000            | 0.441          | 0.900      | 3.035   | 0.000   | 4.376   | 1.134           | 0.000    | 0.000          | 0.000           | 1.134    | (3.242)     | (11.219)           |
| 2016    | 0.000            | 0.452          | 0.900      | 3.681   | 0.000   | 5.033   | 1.399           | 0.000    | 0.000          | 0.000           | 1.399    | (3.633)     | (13.509)           |
| 2017    | 0.000            | 0.463          | 0.900      | 4.371   | 0.000   | 5.734   | 1.711           | 0.000    | 0.000          | 0.000           | 1.711    | (4.024)     | (15.856)           |
| 2018    | 0.000            | 0.475          | 0.900      | 5.096   | 0.000   | 6.470   | 4.404           | 0.000    | 0.000          | 0.000           | 4.404    | (2.066)     | (16.973)           |
| 2019    | 0.000            | 0.486          | 0.900      | 5.890   | 0.000   | 7.277   | 4.862           | 0.000    | 0.000          | 0.000           | 4.862    | (2.415)     | (18.181)           |
|         |                  |                |            |         |         |         |                 |          |                |                 |          |             |                    |
| NOMINAL | 0.000            | 4.364          | 9.000      | 28.567  | 0.000   | 41.931  | 15.829          | 0.000    | 0.000          | 0.000           | 15.829   | (26.102)    |                    |
|         |                  |                |            |         |         |         |                 |          |                |                 |          |             |                    |
| NPV     | 0.000            | 3.114          | 6.522      | 17.876  | 0.000   | 27.511  | 9.330           | 0.000    | 0.000          | 0.000           | 9.330    | (18.181)    |                    |
|         |                  |                |            |         |         |         |                 |          |                |                 |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Commercial Heat Pump SEER 17

| (1)      | (2)       | (3)     | (4)               | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)             | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|----------|-----------|---------|-------------------|---------|---------|---------|----------------|-----------------|---------|----------|----------|-------------|--------------------|
|          | INCREASED | UTILITY |                   |         |         |         | GEN UNIT       | AVOIDED         |         |          |          |             | DISCOUNTED         |
|          | SUPPLY    | PROGRAM |                   | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D           | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|          | COSTS     | COSTS   | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS   | BENEFITS       | <b>BENEFITS</b> | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR     | \$(000)   | \$(000) | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|          |           |         |                   |         |         |         |                |                 |         |          |          |             |                    |
| 2010     | 0.000     | 0.519   | 1.200             | 0.277   | 0.000   | 1.997   | 0.091          | 0.000           | 0.000   | 0.000    | 0.091    | (1.906)     | (1.906)            |
| 2011     | 0.000     | 0.532   | 1.200             | 0.865   | 0.000   | 2.598   | 0.286          | 0.000           | 0.000   | 0.000    | 0.286    | (2.312)     | (4.046)            |
| 2012     | 0.000     | 0.546   | 1.200             | 1.499   | 0.000   | 3.245   | 0.512          | 0.000           | 0.000   | 0.000    | 0.512    | (2.733)     | (6.389)            |
| 2013     | 0.000     | 0.559   | 1.200             | 2.152   | 0.000   | 3.911   | 0.749          | 0.000           | 0.000   | 0.000    | 0.749    | (3.163)     | (8.900)            |
| 2014     | 0.000     | 0.573   | 1.200             | 2.830   | 0.000   | 4.603   | 1.003          | 0.000           | 0.000   | 0.000    | 1.003    | (3.600)     | (11.546)           |
| 2015     | 0.000     | 0.588   | 1.200             | 3.563   | 0.000   | 5.350   | 1.291          | 0.000           | 0.000   | 0.000    | 1.291    | (4.059)     | (14.309)           |
| 2016     | 0.000     | 0.602   | 1.200             | 4.321   | 0.000   | 6.123   | 1.593          | 0.000           | 0.000   | 0.000    | 1.593    | (4.530)     | (17.163)           |
| 2017     | 0.000     | 0.617   | 1.200             | 5.130   | 0.000   | 6.948   | 1.947          | 0.000           | 0.000   | 0.000    | 1.947    | (5.000)     | (20.081)           |
| 2018     | 0.000     | 0.633   | 1.200             | 5.980   | 0.000   | 7.812   | 5.235          | 0.000           | 0.000   | 0.000    | 5.235    | (2.578)     | (21.473)           |
| 2019     | 0.000     | 0.649   | 1.200             | 6.910   | 0.000   | 8.759   | 5.762          | 0.000           | 0.000   | 0.000    | 5.762    | (2.996)     | (22.972)           |
| NOMINIAL | 0.000     | £ 010   | 12.000            | 22.526  | 0.000   | 51.245  | 10.460         | 0.000           | 0.000   | 0.000    | 10.460   | (22.077)    |                    |
| NOMINAL  | 0.000     | 5.818   | 12.000            | 33.526  | 0.000   | 51.345  | 18.468         | 0.000           | 0.000   | 0.000    | 18.468   | (32.877)    |                    |
| NPV      | 0.000     | 4.151   | 8.696             | 20.980  | 0.000   | 33.828  | 10.855         | 0.000           | 0.000   | 0.000    | 10.855   | (22.972)    |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

8.00%

RATE IMPACT TEST
PROGRAM: Commercial Heat Pump SEER 16

| (1)     | (2)              | (3)     | (4)        | (5)     | (6)          | (7)     | (8)<br>AVOIDED  | (9)            | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|---------|------------|---------|--------------|---------|-----------------|----------------|---------|----------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY |            |         |              |         | <b>GEN UNIT</b> | <b>AVOIDED</b> |         |          |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY           | PROGRAM |            | REVENUE | <b>OTHER</b> | TOTAL   | & FUEL          | T & D          | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS   | INCENTIVES | LOSSES  | COSTS        | COSTS   | BENEFITS        | BENEFITS       | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000) | \$(000)    | \$(000) | \$(000)      | \$(000) | \$(000)         | \$(000)        | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |                  |         |            |         |              |         | u na su na 🖫    |                |         |          |          |             |                    |
| 2010    | 0.000            | 0.909   | 2.100      | 0.378   | 0.000        | 3.386   | 0.127           | 0.000          | 0.000   | 0.000    | 0.127    | (3.260)     | (3.260)            |
| 2011    | 0.000            | 0.932   | 2.100      | 1.179   | 0.000        | 4.210   | 0.399           | 0.000          | 0.000   | 0.000    | 0.399    | (3.811)     | (6.789)            |
| 2012    | 0.000            | 0.955   | 2.100      | 2.042   | 0.000        | 5.097   | 0.715           | 0.000          | 0.000   | 0.000    | 0.715    | (4.382)     | (10.546)           |
| 2013    | 0.000            | 0.979   | 2.100      | 2.932   | 0.000        | 6.011   | 1.045           | 0.000          | 0.000   | 0.000    | 1.045    | (4.966)     | (14.488)           |
| 2014    | 0.000            | 1.003   | 2.100      | 3.855   | 0.000        | 6.959   | 1.401           | 0.000          | 0.000   | 0.000    | 1.401    | (5.558)     | (18.573)           |
| 2015    | 0.000            | 1.028   | 2.100      | 4.855   | 0.000        | 7.983   | 1.803           | 0.000          | 0.000   | 0.000    | 1.803    | (6.181)     | (22.779)           |
| 2016    | 0.000            | 1.054   | 2.100      | 5.888   | 0.000        | 9.042   | 2.224           | 0.000          | 0.000   | 0.000    | 2.224    | (6.817)     | (27.075)           |
| 2017    | 0.000            | 1.080   | 2.100      | 6.992   | 0.000        | 10.172  | 2.719           | 0.000          | 0.000   | 0.000    | 2.719    | (7.453)     | (31.424)           |
| 2018    | 0.000            | 1.107   | 2.100      | 8.150   | 0.000        | 11.357  | 7.062           | 0.000          | 0.000   | 0.000    | 7.062    | (4.295)     | (33.745)           |
| 2019    | 0.000            | 1.135   | 2.100      | 9.420   | 0.000        | 12.655  | 7.792           | 0.000          | 0.000   | 0.000    | 7.792    | (4.864)     | (36.178)           |
|         |                  |         |            |         |              |         |                 |                |         |          |          |             |                    |
| NOMINAL | 0.000            | 10.182  | 21.000     | 45.692  | 0.000        | 76.874  | 25.287          | 0.000          | 0.000   | 0.000    | 25.287   | (51.587)    |                    |
|         |                  |         |            |         |              |         |                 |                |         |          |          |             |                    |
| NPV     | 0.000            | 7.265   | 15.218     | 28.592  | 0.000        | 51.075  | 14.897          | 0.000          | 0.000   | 0.000    | 14.897   | (36.178)    |                    |
|         |                  |         |            |         |              |         |                 |                |         |          |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Commercial Heat Pump SEER 15

| (1)     | (2)              | (3)            | (4)               | (5)            | (6)     | (7)     | (8)             | (9)             | (10)    | (11)     | (12)            | (13)             | (14)       |
|---------|------------------|----------------|-------------------|----------------|---------|---------|-----------------|-----------------|---------|----------|-----------------|------------------|------------|
|         |                  |                |                   |                |         |         | AVOIDED         |                 |         |          |                 | NET              | CUMULATIVE |
|         | <b>INCREASED</b> | UTILITY        |                   |                |         |         | <b>GEN UNIT</b> | AVOIDED         |         |          |                 | BENEFITS         | DISCOUNTED |
|         | SUPPLY           | <b>PROGRAM</b> |                   | <b>REVENUE</b> | OTHER   | TOTAL   | & FUEL          | T & D           | REVENUE | OTHER    | TOTAL           | TO ALL           | NET        |
|         | COSTS            | COSTS          | <b>INCENTIVES</b> | LOSSES         | COSTS   | COSTS   | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | BENEFITS | <b>BENEFITS</b> | <b>CUSTOMERS</b> | BENEFIT    |
| YEAR    | \$(000)          | \$(000)        | \$(000)           | \$(000)        | \$(000) | \$(000) | \$(000)         | \$(000)         | \$(000) | \$(000)  | \$(000)         | \$(000)          | \$(000)    |
|         |                  |                |                   |                |         |         |                 |                 |         |          |                 |                  |            |
| 2010    | 0.000            | 0.519          | 0.800             | 0.171          | 0.000   | 1.490   | 0.057           | 0.000           | 0.000   | 0.000    | 0.057           | (1.433)          | (1.433)    |
| 2011    | 0.000            | 0.532          | 0.800             | 0.533          | 0.000   | 1.865   | 0.179           | 0.000           | 0.000   | 0.000    | 0.179           | (1.686)          | (2.994)    |
| 2012    | 0.000            | 0.546          | 0.800             | 0.923          | 0.000   | 2.269   | 0.321           | 0.000           | 0.000   | 0.000    | 0.321           | (1.948)          | (4.665)    |
| 2013    | 0.000            | 0.559          | 0.800             | 1.325          | 0.000   | 2.685   | 0.469           | 0.000           | 0.000   | 0.000    | 0.469           | (2.216)          | (6.423)    |
| 2014    | 0.000            | 0.573          | 0.800             | 1.743          | 0.000   | 3.116   | 0.629           | 0.000           | 0.000   | 0.000    | 0.629           | (2.487)          | (8.252)    |
| 2015    | 0.000            | 0.588          | 0.800             | 2.195          | 0.000   | 3.582   | 0.809           | 0.000           | 0.000   | 0.000    | 0.809           | (2.773)          | (10.139)   |
| 2016    | 0.000            | 0.602          | 0.800             | 2.661          | 0.000   | 4.064   | 0.998           | 0.000           | 0.000   | 0.000    | 0.998           | (3.065)          | (12.071)   |
| 2017    | 0.000            | 0.617          | 0.800             | 3.160          | 0.000   | 4.578   | 1.220           | 0.000           | 0.000   | 0.000    | 1.220           | (3.357)          | (14.030)   |
| 2018    | 0.000            | 0.633          | 0.800             | 3.684          | 0.000   | 5.117   | 3.202           | 0.000           | 0.000   | 0.000    | 3.202           | (1.915)          | (15.064)   |
| 2019    | 0.000            | 0.649          | 0.800             | 4.258          | 0.000   | 5.706   | 3.530           | 0.000           | 0.000   | 0.000    | 3.530           | (2.176)          | (16.153)   |
|         |                  |                |                   |                |         |         |                 |                 |         |          |                 |                  |            |
| NOMINAL | 0.000            | 5.818          | 8.000             | 20.653         | 0.000   | 34.472  | 11.415          | 0.000           | 0.000   | 0.000    | 11.415          | (23.057)         |            |
|         |                  |                |                   |                |         |         |                 |                 |         |          |                 |                  |            |
| NPV     | 0.000            | 4.151          | 5.798             | 12.924         | 0.000   | 22.873  | 6.720           | 0.000           | 0.000   | 0.000    | 6.720           | (16.153)         |            |
|         |                  |                |                   |                |         |         |                 |                 |         |          |                 |                  |            |

Discount rate: 8.00% ol (12) / col (7)]: 0.29

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Commercial Heat Pump SEER 14

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED  | (9)      | (10)    | (11)     | (12)     | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|-----------------|----------|---------|----------|----------|------------------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | <b>GEN UNIT</b> | AVOIDED  |         |          |          | BENEFITS         | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL          | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL           | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS        | BENEFITS | GAINS   | BENEFITS | BENEFITS | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)         | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)          | \$(000)            |
|         |           |         |            |         |         |         |                 |          |         |          |          |                  |                    |
| 2010    | 0.000     | 0.130   | 0.100      | 0.024   | 0.000   | 0.253   | 0.008           | 0.000    | 0.000   | 0.000    | 0.008    | (0.245)          | (0.245)            |
| 2011    | 0.000     | 0.133   | 0.100      | 0.074   | 0.000   | 0.307   | 0.025           | 0.000    | 0.000   | 0.000    | 0.025    | (0.281)          | (0.506)            |
| 2012    | 0.000     | 0.136   | 0.100      | 0.128   | 0.000   | 0.364   | 0.046           | 0.000    | 0.000   | 0.000    | 0.046    | (0.318)          | (0.779)            |
| 2013    | 0.000     | 0.140   | 0.100      | 0.183   | 0.000   | 0.423   | 0.067           | 0,000    | 0.000   | 0.000    | 0.067    | (0.356)          | (1.061)            |
| 2014    | 0.000     | 0.143   | 0.100      | 0.241   | 0.000   | 0.484   | 0.089           | 0.000    | 0.000   | 0.000    | 0.089    | (0.395)          | (1.351)            |
| 2015    | 0.000     | 0.147   | 0.100      | 0.303   | 0.000   | 0.550   | 0.115           | 0.000    | 0.000   | 0.000    | 0.115    | (0.435)          | (1.648)            |
| 2016    | 0.000     | 0.151   | 0.100      | 0.368   | 0.000   | 0.618   | 0.142           | 0.000    | 0.000   | 0.000    | 0.142    | (0.476)          | (1.948)            |
| 2017    | 0.000     | 0.154   | 0.100      | 0.437   | 0.000   | 0.691   | 0.173           | 0.000    | 0.000   | 0.000    | 0.173    | (0.517)          | (2.250)            |
| 2018    | 0.000     | 0.158   | 0.100      | 0.509   | 0.000   | 0.767   | 0.437           | 0.000    | 0.000   | 0.000    | 0.437    | (0.330)          | (2.428)            |
| 2019    | 0.000     | 0.162   | 0.100      | 0.588   | 0.000   | 0.850   | 0.483           | 0.000    | 0.000   | 0.000    | 0.483    | (0.367)          | (2.612)            |
|         |           |         |            |         |         |         |                 |          |         |          |          |                  |                    |
| NOMINAL | 0.000     | 1.455   | 1.000      | 2.853   | 0.000   | 5.307   | 1.585           | 0.000    | 0.000   | 0.000    | 1.585    | (3.722)          |                    |
|         |           |         |            |         |         |         |                 |          |         |          |          |                  |                    |
| NPV     | 0.000     | 1.038   | 0.725      | 1.785   | 0.000   | 3.548   | 0.936           | 0.000    | 0.000   | 0.000    | 0.936    | (2.612)          |                    |
|         |           |         |            |         |         |         |                 |          |         |          |          |                  |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.26

RATE IMPACT TEST
PROGRAM: Commercial Indoor Lighting

| (1)     | (2)       | (3)       | (4)               | (5)        | (6)     | (7)        | (8)             | (9)             | (10)    | (11)      | (12)            | (13)             | (14)        |
|---------|-----------|-----------|-------------------|------------|---------|------------|-----------------|-----------------|---------|-----------|-----------------|------------------|-------------|
|         |           |           |                   |            |         |            | AVOIDED         |                 |         |           |                 | NET              | CUMULATIVE  |
|         | INCREASED | UTILITY   |                   |            |         |            | <b>GEN UNIT</b> | AVOIDED         |         |           |                 | BENEFITS         | DISCOUNTED  |
|         | SUPPLY    | PROGRAM   |                   | REVENUE    | OTHER   | TOTAL      | & FUEL          | T & D           | REVENUE | OTHER     | TOTAL           | TO ALL           | NET         |
|         | COSTS     | COSTS     | <b>INCENTIVES</b> | LOSSES     | COSTS   | COSTS      | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | BENEFITS  | <b>BENEFITS</b> | <b>CUSTOMERS</b> | BENEFIT     |
| YEAR    | \$(000)   | \$(000)   | \$(000)           | \$(000)    | \$(000) | \$(000)    | \$(000)         | \$(000)         | \$(000) | \$(000)   | \$(000)         | \$(000)          | \$(000)     |
|         |           |           |                   |            |         |            |                 |                 |         |           |                 |                  |             |
| 2010    | 0.000     | 385.148   | 0.000             | 132.182    | 0.000   | 517.331    | 56.461          | 0.000           | 0.000   | 128.383   | 184.844         | (332.487)        | (332.487)   |
| 2011    | 0.000     | 394.777   | 0.000             | 414.413    | 0.000   | 809.191    | 178.244         | 0.000           | 0.000   | 259.975   | 438.219         | (370.972)        | (675.979)   |
| 2012    | 0.000     | 404.647   | 0.000             | 720.706    | 0.000   | 1,125.352  | 318.958         | 0.000           | 0.000   | 394.857   | 713.815         | (411.537)        | (1,028.806) |
| 2013    | 0.000     | 414.763   | 0.000             | 1,034.767  | 0.000   | 1,449.530  | 466.366         | 0.000           | 0.000   | 404.729   | 871.094         | (578.435)        | (1,487.986) |
| 2014    | 0.000     | 425.132   | 0.000             | 1,359.749  | 0.000   | 1,784.881  | 624.966         | 0.000           | 0.000   | 414.847   | 1,039.813       | (745.068)        | (2,035.633) |
| 2015    | 0.000     | 435.760   | 0.000             | 1,714.597  | 0.000   | 2,150.357  | 804.330         | 0.000           | 0.000   | 425.218   | 1,229.549       | (920.808)        | (2,662.320) |
| 2016    | 0.000     | 446.654   | 0.000             | 2,080.060  | 0.000   | 2,526.714  | 992.509         | 0.000           | 0.000   | 435.849   | 1,428.358       | (1,098.356)      | (3,354.470) |
| 2017    | 0.000     | 457.820   | 0.000             | 2,472.742  | 0.000   | 2,930.562  | 1,213.356       | 0.000           | 0.000   | 446.745   | 1,660.101       | (1,270.461)      | (4,095.772) |
| 2018    | 0.000     | 469.266   | 0.000             | 2,884.864  | 0.000   | 3,354.130  | 2,220.406       | 0.000           | 0.000   | 457.913   | 2,678.319       | (675.810)        | (4,460.892) |
| 2019    | 0.000     | 480,998   | 0.000             | 3,342.249  | 0.000   | 3,823.247  | 2,518.985       | 0.000           | 0.000   | 469.361   | 2,988.347       | (834.900)        | (4,878.549) |
|         |           |           |                   |            |         |            |                 |                 |         |           |                 |                  |             |
| NOMINAL | 0.000     | 4,314.965 | 0.000             | 16,156.328 | 0.000   | 20,471.293 | 9,394.581       | 0.000           | 0.000   | 3,837.878 | 13,232.459      | (7,238.834)      |             |
|         |           |           |                   |            |         |            |                 |                 |         |           |                 |                  |             |
| NPV     | 0.000     | 3,078.660 | 0.000             | 10,105.771 | 0.000   | 13,184.430 | 5,665.122       | 0.000           | 0.000   | 2,640.759 | 8,305.881       | (4,878.549)      |             |
|         |           |           |                   |            |         |            |                 |                 |         |           |                 |                  |             |

Discount rate:

8.00%

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST PROGRAM: Commercial Energy Efficiency Window Film & Solar Screen

| (1)     | (2)       | (3)     | (4)            | (5)     | (6)        | (7)       | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)                  |
|---------|-----------|---------|----------------|---------|------------|-----------|----------------|----------|---------|----------|----------|-------------|-----------------------|
|         | INCREASED | UTILITY |                |         |            |           | GEN UNIT       | AVOIDED  |         |          |          | BENEFITS    | CUMULATIVE DISCOUNTED |
|         | SUPPLY    | PROGRAM |                | REVENUE | OTHER      | TOTAL     | & FUEL         | T&D      | REVENUE | OTHER    | TOTAL    |             | NET                   |
|         |           |         | DIGES INTO INC |         |            |           |                |          |         |          |          | TO ALL      |                       |
|         | COSTS     |         | INCENTIVES     | LOSSES  | COSTS      | COSTS     | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT               |
| YEAR    | \$(000)   | \$(000) | \$(000)        | \$(000) | \$(000)    | \$(000)   | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)               |
|         |           |         |                |         |            |           |                |          |         |          |          |             |                       |
| 2010    | 0.000     | 0.069   | 0.934          | 0.018   | 0.000      | 1.021     | 0.010          | 0.000    | 0.000   | 0.000    | 0.010    | (1.011)     | (1.011)               |
| 2011    | 0.000     | 0.071   | 0.934          | 0.057   | 0.000      | 1.062     | 0.032          | 0.000    | 0.000   | 0.000    | 0.032    | (1.030)     | (1.965)               |
| 2012    | 0.000     | 0.073   | 0.934          | 0.100   | 0.000      | 1.106     | 0.057          | 0.000    | 0.000   | 0.000    | 0.057    | (1.049)     | (2.864)               |
| 2013    | 0.000     | 0.074   | 0.934          | 0.143   | 0.000      | 1.152     | 0.084          | 0.000    | 0.000   | 0.000    | 0.084    | (1.068)     | (3.712)               |
| 2014    | 0.000     | 0.076   | 0.934          | 0.188   | 0.000      | 1.199     | 0.112          | 0.000    | 0.000   | 0.000    | 0.112    | (1.087)     | (4.511)               |
| 2015    | 0.000     | 0.078   | 0.934          | 0.238   | 0.000      | 1.250     | 0.144          | 0.000    | 0.000   | 0.000    | 0.144    | (1.106)     | (5.264)               |
| 2016    | 0.000     | 0.080   | 0.934          | 0.289   | 0.000      | 1.303     | 0.178          | 0.000    | 0.000   | 0.000    | 0.178    | (1.125)     | (5.973)               |
| 2017    | 0.000     | 0.082   | 0.934          | 0.344   | 0.000      | 1.360     | 0.217          | 0.000    | 0.000   | 0.000    | 0.217    | (1.143)     | (6.639)               |
| 2018    | 0.000     | 0.084   | 0.934          | 0.402   | 0.000      | 1.420     | 0.255          | 0.000    | 0.000   | 0.000    | 0.255    | (1.165)     | (7.269)               |
| 2019    | 0.000     | 0.086   | 0.934          | 0.467   | 0.000      | 1.487     | 0.305          | 0.000    | 0.000   | 0.000    | 0.305    | (1.183)     | (7.860)               |
|         |           |         |                |         |            |           |                |          |         |          |          |             |                       |
| NOMINAL | 0.000     | 0.773   | 9.340          | 2.246   | 0.000      | 12.360    | 1.394          | 0.000    | 0.000   | 0.000    | 1.394    | (10.966)    |                       |
| 2 22 C  | 2 222     | 2 228   | 3 128000       | 27 6250 | 10 - 0 3 2 | 5.1525.00 |                | 2.12.255 |         |          |          |             |                       |
| NPV     | 0.000     | 0.552   | 6.769          | 1.404   | 0.000      | 8.725     | 0.865          | 0.000    | 0.000   | 0.000    | 0.865    | (7.860)     |                       |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Commercial Energy Audit

| (1)     | (2)              | (3)       | (4)               | (5)       | (6)     | (7)       | (8)<br>AVOIDED  | (9)             | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|------------------|-----------|-------------------|-----------|---------|-----------|-----------------|-----------------|---------|----------|----------|-------------|--------------------|
|         | <b>INCREASED</b> | UTILITY   |                   |           |         |           | <b>GEN UNIT</b> | AVOIDED         |         |          |          |             | DISCOUNTED         |
|         | SUPPLY           | PROGRAM   |                   | REVENUE   | OTHER   | TOTAL     | & FUEL          | T & D           | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS            | COSTS     | <b>INCENTIVES</b> | LOSSES    | COSTS   | COSTS     | <b>BENEFITS</b> | <b>BENEFITS</b> | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)          | \$(000)   | \$(000)           | \$(000)   | \$(000) | \$(000)   | \$(000)         | \$(000)         | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |                  |           |                   |           |         |           |                 |                 |         |          |          |             |                    |
| 2010    | 0.000            | 142.972   | 0.000             | 9.083     | 0.000   | 152.055   | 4.082           | 0.000           | 0.000   | 0.000    | 4.082    | (147.973)   | (147.973)          |
| 2011    | 0.000            | 146.547   | 0.000             | 28.505    | 0.000   | 175.051   | 12.887          | 0.000           | 0.000   | 0.000    | 12.887   | (162.165)   | (298.125)          |
| 2012    | 0.000            | 150.210   | 0.000             | 49.617    | 0.000   | 199.828   | 23.060          | 0.000           | 0.000   | 0.000    | 23.060   | (176.768)   | (449.675)          |
| 2013    | 0.000            | 153.965   | 0.000             | 71.241    | 0.000   | 225.206   | 33.717          | 0.000           | 0.000   | 0.000    | 33.717   | (191.489)   | (601.685)          |
| 2014    | 0.000            | 157.815   | 0.000             | 93.601    | 0.000   | 251.416   | 45.184          | 0.000           | 0.000   | 0.000    | 45.184   | (206.232)   | (753.272)          |
| 2015    | 0.000            | 161.760   | 0.000             | 118.067   | 0.000   | 279.827   | 58.152          | 0.000           | 0.000   | 0.000    | 58.152   | (221.675)   | (904.141)          |
| 2016    | 0.000            | 165.804   | 0.000             | 143.243   | 0.000   | 309.047   | 71.757          | 0.000           | 0.000   | 0.000    | 71.757   | (237.290)   | (1,053.674)        |
| 2017    | 0.000            | 169.949   | 0.000             | 170.328   | 0.000   | 340.278   | 87.723          | 0.000           | 0.000   | 0.000    | 87.723   | (252.554)   | (1,201.037)        |
| 2018    | 0.000            | 174.198   | 0.000             | 198.759   | 0.000   | 372.956   | 148.382         | 0.000           | 0.000   | 0.000    | 148.382  | (224.574)   | (1,322.367)        |
| 2019    | 0.000            | 178.553   | 0.000             | 230.398   | 0.000   | 408.951   | 169.617         | 0.000           | 0.000   | 0.000    | 169.617  | (239.335)   | (1,442.094)        |
|         |                  |           |                   |           |         |           |                 |                 |         |          |          |             |                    |
| NOMINAL | 0.000            | 1,601.773 | 0.000             | 1,112.843 | 0.000   | ######### | 654.560         | 0.000           | 0.000   | 0.000    | 654.560  | (2,060.055) |                    |
| NPV     | 0.000            | 1,142.840 | 0.000             | 696.014   | 0.000   | ######### | 396.760         | 0.000           | 0.000   | 0.000    | 396.760  | (1,442.094) |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.22

RATE IMPACT TEST PROGRAM: Commercial Energy Efficiency Duct

| (1)     | (2)       | (3)            | (4)               | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)     | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|-----------|----------------|-------------------|---------|---------|---------|----------------|----------|---------|----------|----------|-------------|--------------------|
|         | INCREASED | UTILITY        |                   |         |         |         | GEN UNIT       | AVOIDED  |         |          |          | BENEFITS    | DISCOUNTED         |
|         | SUPPLY    | <b>PROGRAM</b> |                   | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL    | TO ALL      | NET                |
|         | COSTS     | COSTS          | <b>INCENTIVES</b> | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | BENEFITS | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)   | \$(000)        | \$(000)           | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)  | \$(000)     | \$(000)            |
|         |           |                |                   |         |         |         |                |          |         |          |          |             |                    |
| 2010    | 0.000     | 0.451          | 1.500             | 0.237   | 0.000   | 2.188   | 0.073          | 0.000    | 0.000   | 0.000    | 0.073    | (2.115)     | (2.115)            |
| 2011    | 0.000     | 0.462          | 1.500             | 0.738   | 0.000   | 2.700   | 0.230          | 0.000    | 0.000   | 0.000    | 0.230    | (2.470)     | (4.402)            |
| 2012    | 0.000     | 0.474          | 1.500             | 1.278   | 0.000   | 3.251   | 0.412          | 0.000    | 0.000   | 0.000    | 0.412    | (2.839)     | (6.836)            |
| 2013    | 0.000     | 0.486          | 1.500             | 1.834   | 0.000   | 3.820   | 0.602          | 0.000    | 0.000   | 0.000    | 0.602    | (3.217)     | (9.390)            |
| 2014    | 0.000     | 0.498          | 1.500             | 2.412   | 0.000   | 4.410   | 0.807          | 0.000    | 0.000   | 0.000    | 0.807    | (3.602)     | (12.038)           |
| 2015    | 0.000     | 0.510          | 1.500             | 3.036   | 0.000   | 5.046   | 1.039          | 0.000    | 0.000   | 0.000    | 1.039    | (4.007)     | (14.765)           |
| 2016    | 0.000     | 0.523          | 1.500             | 3.682   | 0.000   | 5.705   | 1.282          | 0.000    | 0.000   | 0.000    | 1.282    | (4.423)     | (17.552)           |
| 2017    | 0.000     | 0.536          | 1.500             | 4.370   | 0.000   | 6.407   | 1.567          | 0.000    | 0.000   | 0.000    | 1.567    | (4.839)     | (20.376)           |
| 2018    | 0.000     | 0.549          | 1.500             | 5.093   | 0.000   | 7.143   | 4.560          | 0.000    | 0.000   | 0.000    | 4.560    | (2.582)     | (21.771)           |
| 2019    | 0.000     | 0.563          | 1.500             | 5.883   | 0.000   | 7.946   | 4.995          | 0.000    | 0.000   | 0.000    | 4.995    | (2.951)     | (23.247)           |
|         |           |                |                   |         |         |         |                |          |         |          |          |             |                    |
| NOMINAL | 0.000     | 5.053          | 15.000            | 28.562  | 0.000   | 48.615  | 15.568         | 0.000    | 0.000   | 0.000    | 15.568   | (33.046)    |                    |
|         |           |                |                   |         |         |         |                |          |         |          |          |             |                    |
| NPV     | 0.000     | 3.605          | 10.870            | 17.875  | 0.000   | 32.350  | 9.103          | 0.000    | 0.000   | 0.000    | 9.103    | (23.247)    |                    |
|         |           |                |                   |         |         |         |                |          |         |          |          |             |                    |

Benefit / Cost Ratio [col (12) / col (7)]:

RATE IMPACT TEST
PROGRAM: Commercial Energy Efficiency Cool Roof

| (1)     | (2)       | (3)       | (4)               | (5)       | (6)     | (7)          | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)            | (13)<br>NET      | (14)<br>CUMULATIVE |
|---------|-----------|-----------|-------------------|-----------|---------|--------------|----------------|----------|---------|----------|-----------------|------------------|--------------------|
|         | INCREASED | UTILITY   |                   |           |         |              | GEN UNIT       | AVOIDED  |         |          |                 | BENEFITS         | DISCOUNTED         |
|         | SUPPLY    | PROGRAM   |                   | REVENUE   | OTHER   | TOTAL        | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL           | TO ALL           | NET                |
|         | COSTS     | COSTS     | <b>INCENTIVES</b> | LOSSES    | COSTS   | COSTS        | BENEFITS       | BENEFITS | GAINS   | BENEFITS | <b>BENEFITS</b> | <b>CUSTOMERS</b> | BENEFIT            |
| YEAR    | \$(000)   | \$(000)   | \$(000)           | \$(000)   | \$(000) | \$(000)      | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)          | \$(000)            |
|         |           |           |                   |           |         |              |                |          |         |          |                 |                  |                    |
| 2010    | 0.000     | 120.502   | 30.217            | 31.645    | 0.000   | 182.364      | 17.665         | 0.000    | 0.000   | 0.000    | 17.665          | (164.698)        | (164.698)          |
| 2011    | 0.000     | 123.514   | 30.217            | 99.796    | 0.000   | 253.527      | 55.767         | 0.000    | 0.000   | 0.000    | 55.767          | (197.760)        | (347.810)          |
| 2012    | 0.000     | 126.602   | 30.217            | 174.474   | 0.000   | 331.293      | 99.793         | 0.000    | 0.000   | 0.000    | 99.793          | (231.500)        | (546.284)          |
| 2013    | 0.000     | 129.767   | 30.217            | 250.543   | 0.000   | 410.528      | 145.912        | 0.000    | 0.000   | 0.000    | 145.912         | (264.615)        | (756.344)          |
| 2014    | 0.000     | 133.011   | 30.217            | 328.952   | 0.000   | 492.180      | 195.534        | 0.000    | 0.000   | 0.000    | 195.534         | (296.646)        | (974.388)          |
| 2015    | 0.000     | 136.337   | 30.217            | 415.587   | 0.000   | 582.141      | 251.652        | 0.000    | 0.000   | 0.000    | 251.652         | (330.489)        | (1,199.313)        |
| 2016    | 0.000     | 139.745   | 30.217            | 504.384   | 0.000   | 674.346      | 310.528        | 0.000    | 0.000   | 0.000    | 310.528         | (363.819)        | (1,428.580)        |
| 2017    | 0.000     | 143.239   | 30.217            | 600.496   | 0.000   | 773.951      | 379.624        | 0.000    | 0.000   | 0.000    | 379.624         | (394.327)        | (1,658.666)        |
| 2018    | 0.000     | 146.820   | 30.217            | 701.444   | 0.000   | 878.480      | 445.638        | 0.000    | 0.000   | 0.000    | 445.638         | (432.842)        | (1,892.518)        |
| 2019    | 0.000     | 150.490   | 30.217            | 815.262   | 0.000   | 995.969      | 531.827        | 0.000    | 0.000   | 0.000    | 531.827         | (464.142)        | (2,124.704)        |
|         |           |           |                   |           |         |              |                |          |         |          |                 |                  |                    |
| NOMINAL | 0.000     | 1,350.028 | 302.170           | 3,922.582 | 0.000   | ##########   | 2,433.940      | 0.000    | 0.000   | 0.000    | 2,433.940       | (3,140.839)      |                    |
| NPV     | 0.000     | 963.224   | 218.979           | 2,452.185 | 0.000   | ############ | 1,509.683      | 0.000    | 0.000   | 0.000    | 1,509.683       | (2,124.704)      |                    |

Benefit / Cost Ratio [col (12) / col (7)]: 0.42

RATE IMPACT TEST

PROGRAM: Commercial Energy Efficiency Ceiling Insulation

| (1)     | (2)       | (3)     | (4)        | (5)     | (6)     | (7)     | (8)<br>AVOIDED | (9)      | (10)    | (11)     | (12)            | (13)<br>NET | (14)<br>CUMULATIVE |
|---------|-----------|---------|------------|---------|---------|---------|----------------|----------|---------|----------|-----------------|-------------|--------------------|
|         | INCREASED | UTILITY |            |         |         |         | GEN UNIT       | AVOIDED  |         |          |                 | BENEFITS    | DISCOUNTED         |
|         | SUPPLY    | PROGRAM |            | REVENUE | OTHER   | TOTAL   | & FUEL         | T & D    | REVENUE | OTHER    | TOTAL           | TO ALL      | NET                |
|         | COSTS     | COSTS   | INCENTIVES | LOSSES  | COSTS   | COSTS   | BENEFITS       | BENEFITS | GAINS   | BENEFITS | <b>BENEFITS</b> | CUSTOMERS   | BENEFIT            |
| YEAR    | \$(000)   | \$(000) | \$(000)    | \$(000) | \$(000) | \$(000) | \$(000)        | \$(000)  | \$(000) | \$(000)  | \$(000)         | \$(000)     | \$(000)            |
|         |           |         |            |         |         |         | _              |          |         |          |                 |             |                    |
| 2010    | 0.000     | 0.456   | 0.700      | 0.196   | 0.000   | 1.352   | 0.077          | 0.000    | 0.000   | 0.000    | 0.077           | (1.275)     | (1.275)            |
| 2011    | 0.000     | 0.468   | 0.700      | 0.612   | 0.000   | 1.780   | 0.242          | 0.000    | 0.000   | 0.000    | 0.242           | (1.538)     | (2.699)            |
| 2012    | 0.000     | 0.479   | 0.700      | 1.063   | 0.000   | 2.242   | 0.433          | 0.000    | 0.000   | 0.000    | 0.433           | (1.810)     | (4.250)            |
| 2013    | 0.000     | 0.491   | 0.700      | 1.526   | 0.000   | 2.717   | 0.633          | 0.000    | 0.000   | 0.000    | 0.633           | (2.085)     | (5.905)            |
| 2014    | 0.000     | 0.504   | 0.700      | 2.006   | 0.000   | 3.209   | 0.848          | 0.000    | 0.000   | 0.000    | 0.848           | (2.361)     | (7.641)            |
| 2015    | 0.000     | 0.516   | 0.700      | 2.528   | 0.000   | 3.744   | 1.091          | 0.000    | 0.000   | 0.000    | 1.091           | (2.653)     | (9.447)            |
| 2016    | 0.000     | 0.529   | 0.700      | 3.066   | 0.000   | 4.295   | 1.346          | 0.000    | 0.000   | 0.000    | 1.346           | (2.949)     | (11.305)           |
| 2017    | 0.000     | 0.542   | 0.700      | 3.643   | 0.000   | 4.886   | 1.646          | 0.000    | 0.000   | 0.000    | 1.646           | (3.240)     | (13.195)           |
| 2018    | 0.000     | 0.556   | 0.700      | 4.249   | 0.000   | 5.505   | 3.428          | 0.000    | 0.000   | 0.000    | 3.428           | (2.077)     | (14.317)           |
| 2019    | 0.000     | 0.570   | 0.700      | 4.918   | 0.000   | 6.188   | 3.845          | 0.000    | 0.000   | 0.000    | 3.845           | (2.343)     | (15.490)           |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |
| NOMINAL | 0.000     | 5.111   | 7.000      | 23.807  | 0.000   | 35.917  | 13.587         | 0.000    | 0.000   | 0.000    | 13.587          | (22.330)    |                    |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |
| NPV     | 0.000     | 3.646   | 5.073      | 14.893  | 0.000   | 23.613  | 8.123          | 0.000    | 0.000   | 0.000    | 8.123           | (15.490)    |                    |
|         |           |         |            |         |         |         |                |          |         |          |                 |             |                    |

Discount rate: 8.00%

Benefit / Cost Ratio [col (12) / col (7)]: 0.34

|                                |              |  |   |                                       |   |  |   |                     | Tab                           | le 2a                                    | _           |   |                            |                                   |                  |                               |   |                |                                |
|--------------------------------|--------------|--|---|---------------------------------------|---|--|---|---------------------|-------------------------------|--|-------------|---|----------------------------|-----------------------------------|------------------|-------------------------------|---|----------------|--------------------------------|
|                                |              |  |   |                                       |   | _  |   | Residentia          | 1 Program                     | Informatio                               | n - Savings | 3                                       |                            |                                   |                  |                               |   |                |                                |
| rogram Name                    |              | Single<br>Family<br>Energy Surveys –<br>Walk-Through | Single Family  Energy Surveys - Video / DVD | Single Family Energy Surveys – Online | Multi<br>Family<br>Energy Surveys –<br>Walk-Through | Multi<br>Family<br>Energy Surveys –<br>Video / DVD | Multi<br>Family<br>Energy Surveys -<br>Online | Duct Repair Rebate: | Ceiling Insulation<br>Rebates | Window Film /<br>Solar Screen<br>Rebatov |             | Caulking · Weather<br>Stripping Rehates | Wall Insulation<br>Rehates | Cool / Reflective<br>Roof Rehates | Home Energy Fix- | Billed Solution<br>Insulation | Efficient Electric<br>Heat Pump Rebates | Gold Ring Home | Compact<br>Fluorescent Lightin |
| ustomer Category               | RES COM/IND  | Res  | Res   | Res                                   | Res   | Res  | Res   | Res                 | Res                           | Res                                      | Res         | Res                                     | Res                        | Res                               | Res              | Res                           | Res                                     | Res            | Res                            |
| годгат Туре                    | (EE / DR RE) | EE   | EE  | EE                                    | EE  | EE   | EE  | EE                  | EE                            | EE                                       | EE          | EE                                      | EE                         | EE                                | EE               | EE                            | EE                                      | EE             | EE                             |
| rogram Estimate <sup>(1)</sup> |              |  |   |                                       |   |  |   |                     |                               |  |             |   |                            |                                   |                  |                               |   |                | Ser of Marie                   |
| ummer Demand                   | (MW)         | 0  | 0   | 0                                     | 0   | 0  | 0   | 0.31                | 0.41                          | 0.03                                     | 0.4         | 0                                       | 0                          | 0.04                              | 0.15             | 0.08                          | 2.98                                    | 0.06           | 1.2                            |
| Tinter Demand                  | (MW)         | 0  | 0   | 0                                     | 0   | 0  | 0   | 0.41                | 0.75                          | -0.01                                    | 0.24        | 0                                       | 0.01                       | 0                                 | 0.03             | 0.14                          | 1.66                                    | 0.06           | 1.2                            |
| nnual Energy                   | (GWh)        | 5.5  | 2.47  | 1.8                                   | 1.79  | 0.81   | 0.59  | 0.43                | 1.07                          | 0.1                                      | 0.85        | 10.0                                    | 0                          | 0.09                              | 0.14             | 0.21                          | 6,07                                    | 0.08           | 1.75                           |
| of Commission Aut              | horized Geal |  | factor (2)                                  |                                       | 52.0.34   | 1205   | 2.5 2.2                                       |                     |                               |  |             |   | +15.32                     |                                   |                  |                               |   |                |                                |
| ummer Demand                   | (%)          | 0.00%  | 0.00%                                       | 0.00%                                 | 0.00%   | 0.00%  | 0.00%   | 6.20%               | 8.20%                         | 0.60%                                    | 8.00%       | 0.00%                                   | 0.00%                      | 0.80%                             | 2.90%            | 1.60%                         | 59,60%                                  | 1.10%          | 24.00%                         |
| /inter Demand                  | (%)          | 0.00%  | 0.00%                                       | 0.00%                                 | 0.00%   | 0.00%  | 0.00%   | 20.50%              | 37.50%                        | -0.50%                                   | 12.00%      | 0.00%                                   | 0.30%                      | 0.00%                             | 1.60%            | 7.20%                         | 83.00%                                  | 3.20%          | 60.00%                         |
| nnual Energy                   | (%)          | 30.60%   | 13,70%                                      | 10.00%                                | 10.00%  | 4,50%  | 3.30%   | 2.40%               | 6.00%                         | 0.60%                                    | 4.70%       | 0.00%                                   | 0.00%                      | 0.50%                             | 0.80%            | 1.10%                         | 33.70%                                  | 0.50%          | 9,70%                          |

|                                 |                   |               |                             | Table 2b                              |                     |  |                               |                   |
|---------------------------------|-------------------|---------------|-----------------------------|---------------------------------------|---------------------|--|-------------------------------|-------------------|
|                                 |                   | Comr          | nercial Pro                 | gram Infor                            | mation - Sa         | vings                                  |                               |                   |
| Program Name                    |                   | Energy Audits | Indoor lighting<br>Retrofit | Efficient Electric  Heat Pump Rebates | Duct Repair Rebate: | Window Film<br>Solar Screen<br>Rebates | Ceiling Insulation<br>Rebates | Cool / Reflective |
| Customer Category               | (RES / COM - IND) | C/I           | C1                          | са                                    | ел                  | CI                                     | C1                            | C1                |
| Program Type                    | (EE / DR/ RE)     | EE            | EE                          | EE                                    | EE                  | EE                                     | EE                            | EE                |
| Program Estimate <sup>(f)</sup> |                   |               |                             |                                       |                     |  | 100                           |                   |
| Summer Demand                   | (MW)              | 0.38          | 6.73                        | 0.1                                   | 0.02                | 0                                      | 0.01                          | See Note (2)      |
| Winter Demand                   | (MW)              | 0.38          | 6.73                        | 0.06                                  | 0.03                | 0                                      | 0.02                          | See Note (2)      |
| Annual Energy                   | (GWh)             | 2.19          | 30.24                       | 0.19                                  | 0.04                | 0.01                                   | 0,04                          | See Note (2)      |
| % of Commission A               | uthorized Goal    |               |                             |                                       |                     |  |                               |                   |
| Summer Demand                   | (%)               | 5.50%         | 96.20%                      | 1.40%                                 | 0.30%               | 0.00%                                  | 0.20%                         | See Note (2)      |
| Winter Demand                   | (%)               | 5.50%         | 96.20%                      | 0.80%                                 | 0.40%               | 0.00%                                  | 0.30%                         | See Note (2)      |
| Annual Energy                   | (%)               | 12.10%        | 168.00%                     | 1.10%                                 | 0.20%               | 0.00%                                  | 0.20%                         | See Note (2)      |

<sup>(1)</sup> Represents cumulative projected savings over the 2010 through 2019 period.

<sup>13.</sup> In the initial offering of the commercial cool reflective roof program in 2009, OUC lad? customers participate. One of the participants accounted for more than two thirds of the total square footage of the cool roof-reflective program. Due to uncertainty reparting the likelihood of similar participation in future years, peak demand and energy reductions associated with commercial cool reflective roof program have not been included in OUC's projected reductions.

|                               |                   |                                  |                                 |                            |  |                                 |                            |                     | Table 3a                      |                                       |                                    |                                       |                            | _                                 |                    |                 |                        |                |                  |
|-------------------------------|-------------------|----------------------------------|---------------------------------|----------------------------|--|---------------------------------|----------------------------|---------------------|-------------------------------|---------------------------------------|------------------------------------|---------------------------------------|----------------------------|-----------------------------------|--------------------|-----------------|------------------------|----------------|------------------|
|                               |                   |                                  |                                 |                            | _  |                                 | Reside                     | ential Progr        | ram Inform                    | ation - To                            | tal Cost                           |                                       |                            |                                   |                    |                 |                        |                |                  |
|                               |                   | Single                           | Single                          | Single                     | Multi  | Multi                           | Multi                      |                     |                               |                                       | 1                                  | T                                     | 1                          | Ţ                                 | г—                 |                 | _                      |                | _                |
|                               |                   | Family                           | Family                          | Family                     | Family   | Family                          | Family                     |                     |                               |                                       |                                    |                                       |                            |                                   |                    |                 |                        |                | ſ                |
| Program Name                  |                   | Energy Surveys -<br>Walk-Through | Energy Surveys -<br>Video / DVD | Energy Surveys -<br>Online | Energy Surveys -<br>Walk-Through   | Energy Surveys -<br>Video / DVD | Energy Surveys -<br>Online | Duet Repair Rehates | Ceiling Invulation<br>Robates | Window Film / Solar<br>Scroon Robates | High Performance<br>Window Rebates | Caulking Weather<br>Stripping Relates | Wall Insulation<br>Relatos | Cool / Reflective<br>Roof Rebates | Home Energy Fix-Up | Billed Solution | Efficient Electric Hea |                | Compact Fluorens |
| Customer Category             | (RES / COM / IND) | Res                              | Ros                             | Re                         | Ras  | Rea                             | Res                        | Res                 | Res                           | Res                                   | Res                                | Rei                                   |                            |                                   |                    | Insulation      | Pump Rebatos           | Gold Ring Home | Lighting         |
| Program Type                  | (EE / DR / RE)    | EE                               | PE                              | EE                         | EE   | EE                              | EE                         | EE                  | EE                            | BE .                                  | KE                                 | EE                                    | Res                        | Res                               | Res                | Res             | Res                    | Res            | Res              |
| Program Cost (Complative NPV) |                   |                                  |                                 |                            |  |                                 |                            |                     |                               |                                       | 100                                | EE                                    | EE                         | RE                                | EE                 | EE              | EE                     | FE             | EF.              |
| Administrative                | (\$)              | \$2,586,595                      | 5243,345                        | \$176,927                  | \$1,052,033  | \$79,611                        | \$57,882                   | \$47,397            | \$113,372                     | \$9,811                               | \$83,70                            |                                       |                            |                                   |                    |                 |                        |                | MERSEN           |
| Education, Surveys, Marketing | (5)               | \$685,856                        | \$308,127                       | 9224,028                   | \$223,527  | \$100,805                       | \$73,291                   | \$60,014            | 3143,560                      | \$12,432                              |                                    | \$870                                 | \$368                      | \$0,130                           | \$13,299           | \$21,668        | \$557,864              | \$8,063        | \$133,5          |
| Equipment, Installation, O&M  | (5)               | 50                               | 14,860                          | \$159,314                  | SI   | \$12,044                        | \$68,277                   | 60                  | 1000                          | 31231                                 | \$106,098                          | \$1,101                               | \$460                      | \$11,571                          | \$16,840           | \$27,436        | \$706,375              | \$10,200       | \$169,0          |
| Incentives/Rebates            | (\$)              | 51                               | 50                              | 50                         | 9  | 9/                              | 9/                         | \$153,624           | \$170,693                     | \$48.277                              | 9                                  | SI                                    | 5/                         | 30                                | 5/                 | \$4             | \$4                    | 9              | \$50,80          |
| Total Cost                    | (\$)              | 53,272,451                       | 5550,333                        | \$560,269                  | \$1,276,460  | \$192,460                       | \$199,451                  | \$261,035           | 3427,631                      | \$90,527                              | \$199,142                          |                                       | \$15,931                   | \$14,793                          | \$218,548          | \$32,621        | \$1,131,885            | \$31,867       |                  |
| Program Cost (% of Program)   | The State         |                                  |                                 |                            |  |                                 |                            | 4201,200            | 9427,03                       | 590,321                               | \$389,63                           | . \$14,863                            | \$16,766                   | \$35,503                          | \$248,687          | \$83,725        | \$2,396,124            | \$50,134       | \$353,4          |
| Administrative                | (%)               | 794,                             | 44*6                            | 32%                        | 820.   | 419                             | 791                        | 121                 | 279                           |                                       |                                    |                                       |                            |                                   |                    |                 |                        |                |                  |
| ducation, Surveys, Marketing  | (%)               | 21%                              | 55%                             | 40%                        | 18%  | 52%                             | 370                        | 230,                | V6                            | 14%                                   | 22%                                | 67.                                   | 2%                         | 26%                               | 5%                 | 27%             | 23%                    | 16*4           | 38               |
| Equipment, Installation, OAM  | (%)               | (je <sub>j</sub>                 | 15                              | 29%                        | 7/5  | 65                              | 1/0                        | 250                 |                               | 14%                                   | 274,                               | 79,                                   | 3%                         | 330                               | 75                 | 34%             | 20%                    | 20%            | 48               |
| ncontives/Rehates             | (47)              | Or.                              | tio.                            | (19)                       | 1)9.   | 100                             | on.                        |                     | 400                           |                                       | 195,                               | on,                                   | 1994                       | 99                                | 0%                 | 0%              | .0%                    | 1953           | 145              |
| hogam Rate Impact             |                   | A Charles                        | SHOW SHOW                       | A MARIE                    | A STATE OF THE STA |                                 |                            | 34                  | 407                           | 75%                                   | 515                                | 879.                                  | 95%                        | 42%                               | 88*6               | 404)            | 47%                    | 64%            | ne               |
| tesidential Rate Impact       | (S/mo)            | 50.14                            | \$0,03                          | \$0,03                     | \$0.05   | 50.01                           | \$0.01                     | \$0.01              |                               |                                       |                                    |                                       |                            |                                   |                    |                 | 12 14 15 15            | LONG YEAR      | te live a        |
| ercentage of Total ECCR Rate  | (%)               | No                               | N/A                             | NG                         |  |                                 | 307                        | \$0,01              | \$0,02                        | \$0,00                                | \$0,02                             | \$0,00                                | \$0.00                     | \$0,00                            | \$0,01             | \$0,00          | \$0,11                 | \$0,00         | \$0.0            |
| ost Revenues                  | (\$)              | \$18,70                          | \$17,250                        | N/                         | N/A  | N/A                             | N/A                        | N/A                 | N/A                           | N/A                                   | N/A                                | N/A                                   | N/A                        | No                                | N/A                | N A             | NO                     | N/A            | N/               |
|                               | (3)               | 5.50,793                         | \$17,250                        | \$12,542                   | \$12,514   | \$5,644                         | \$4,103                    | 257,52              | \$8,033                       | \$694                                 | 55,940                             | \$62                                  | \$26                       | \$648                             | \$041              | \$1,536         | \$39,546               | \$573          | 39,46            |

|                               |                     |              | Tab                         | le 3b              |              |  |                               |                 |
|-------------------------------|---------------------|--------------|-----------------------------|--------------------|--------------|--|-------------------------------|-----------------|
|                               | Co                  | mmercial     | Program I                   | nformation         | - Total Co   | ost                                    |                               |                 |
| Program Name                  |                     | Energy Audes | Indeor lighting<br>Retrofit | Efficient Flortric |              | Window Film<br>Nostr Sercen<br>Rehates | Ceiling Insulation<br>Rebates | Cool Reflective |
| Customer Category             | (RES : COM / IND)   | СЛ           | сл                          | C4                 | C1           | C/I                                    | CI                            | ед:             |
| Program Type                  | (EE / DR/ RE)       | EE           | EE                          | EE                 | EE.          | EE                                     | EE                            | EE              |
| Program Cost (Complete e NFV) | and the second      | Europe Nach  |                             |                    |              |  |                               |                 |
| Administrative                | (5)                 | \$930,841    | \$788,020                   | \$5,768            | \$100        | \$161                                  | \$1,067                       | \$281,7         |
| Education, Surveys, Marketing | (S)                 | \$127,339    | \$1,706,265                 | \$12,490           | \$230        | \$349                                  | \$2,310                       | \$610,10        |
| Equipment, Installation, O&M  | (5)                 | 30           | \$0                         | 50                 | so           | \$0                                    |                               |                 |
| Incentives Rebates            | (5)                 | 20           | 20                          | \$38,690           | \$1,138      | \$7,080                                | \$5,310                       | \$229.23        |
| Total Cost                    | (\$)                | \$1,058,180  | \$2,494,284                 | \$56,948           | \$1,474      | \$7,596                                | \$8,687                       | \$1,121,11      |
| Program Cost (% of Program)   | Experience          |              |                             |                    |              |  |                               |                 |
| Administracive                | (%)                 | 884          | 32%                         | 10%                | 79:          | 25                                     | 12*                           | 250             |
| Education, Surveys, Marketing | (**)                | 120          | 684                         | 220                | 16°.         | 51.                                    | 279                           | 540             |
| Equipment, Installation, O&M  | (°a)                | De:          | 04                          | 0*                 | 00.          | 053                                    | 0*                            | Ge              |
| ncestives/Rebotes             | (¢°)                | (le-         | 00.                         | 68°.               | 779.         | 93%                                    | 61*                           | 200             |
| Program Rate Impact           | oli esta <u>Y</u> a |              |                             | Carlot N           | SELECTION OF | 170 L                                  |                               |                 |
| Residential Rate Impact       | (S/mo)              | NiA          | N/A                         | N/A                | N/A          | N/A                                    | N/A                           | N/              |
| Percentage of Total ECCR Rate | ₹*63                | NA           | N/A                         | N A                | N/A          | N/A                                    | No                            | N/A             |
| ost Rovenues                  | (\$)                | \$13,785     | \$184,711                   | \$1,353            | \$2.5        | 538                                    | \$250                         | \$66,04         |

|                    |                  |                  |                |                  |                  |                   |                |                    | Tab        | le 4a                                 |                |   |                             |                                   |                    |   |                                       |                |                             |
|--------------------|------------------|------------------|----------------|------------------|------------------|-------------------|----------------|--------------------|------------|---------------------------------------|----------------|---|-----------------------------|-----------------------------------|--------------------|---|---------------------------------------|----------------|-----------------------------|
|                    |                  |                  |                |                  |                  |                   | Resid          | lential Pros       |            | nation - C                            | ost Effectiv   | veness                                  |                             |                                   |                    |   |                                       |                |                             |
|                    |                  | Single           | Surgle         | Single           | Multi            | Mult              | Muhi           |                    |            |                                       |                |   |                             |                                   |                    | T   | I                                     | r              | 1                           |
|                    |                  | Femily           | Femily         | Femily           | Femily           | Famby             | Family         |                    |            |                                       |                |   |                             |                                   |                    |   |                                       |                |                             |
|                    |                  | Energy Surveys - | Energy Surveys | Energy Surveys - | Energy Surveys - | Energy Storiess - | Energy Surveys |                    |            |                                       |                | 22 22 2                                 | 222.2                       | 0.000.01                          |                    |   |                                       |                |                             |
| Program Name       |                  | Walk-Through     | \ideo / DVD    | Online           | Walk-Through     | Nideo / DVD       | Online         | Dest Repar Rebates | Rebates    | Window Film / Solar<br>Screen Rebates | Window Relates | Coulking / Westler<br>Stripping Relutes | = all terolation<br>Returns | Cool / Reflective<br>Roof Relates | Home Energy Fin-Uy | Billed Solution<br>Insulation   | Efficient Flector Hea<br>Pump Rehate: | Gold Ring Home | Compact Flacess<br>Lighting |
| antomer Category   | (RES / COM/ IND) | Bes              | Res            | Res              | Res              | Res               | Res            | Res                | 7.es       | Rec                                   | Res            | Res                                     | Rec                         | Res                               | Res                | Res   | Res                                   | Rec            | Res                         |
| rogram Type        | (EE / DR/ RE)    | ER               | BE             | IE               | Æ                | 125               | EE             | FE                 | Æ          | 895                                   | III.           | IE .                                    | 188                         | EE.                               | 196                | FE.   | E                                     | BE             | 101                         |
| TEC Test Reculus   |                  |                  |                |                  |                  | a a company       |                |                    |            |                                       |                |   | 1000                        |                                   |                    |   |                                       |                | A CONTRACTOR                |
| Tetal Benefits     | (2010 NFV \$)    | \$177,58         | \$ 994,34      | \$286,678        | \$216,100        | \$128,960         | 503,522        | \$107.32           | \$221,93   | \$19,916                              | \$196,130      | 51,400                                  | \$796                       | \$20,034                          | \$39,74            | N/A <sup>c</sup>  | \$1,250,465                           | \$10,90        | \$12.                       |
| Tetal Costs        | (2010 NPV S)     | \$3,573,960      | \$625,050      | \$101,915        | \$1,378,878      | \$207,904         | \$215,500      | \$601,600          | \$1,314,25 | \$167,014                             | \$1,517,566    | \$26,716                                | \$124,871                   | \$90,000                          | \$73,18            | N/A"  | \$18,058,428                          | \$19,73        | 35                          |
| latio              |                  | 0.25             | 0.6            | 0.43             | 0.21             | 0.60              | 0.44           | 0.18               | 0.1        | 0.13                                  | 0.13           | 0.01                                    | 0.01                        | 0.23                              | 0.54               | 0.17  | 0.01                                  | 1.0            |                             |
| dM Test Reside     |                  | No.              | PER PA         |                  |                  |                   |                |                    |            |                                       |                |   |                             | North Avenue                      | S 2741 741         |   |                                       | 10000          |                             |
| onal Benefits      | (2010 NP1'5)     | \$877,589        | \$394,343      | 5280,638         | 5786,108         | \$128,964         | 503,822        | \$107,225          | \$221,031  | \$19,940                              | \$186,110      | \$1,400                                 | \$700                       | \$20,034                          | \$39,747           | N/4"  | \$1,250,460                           | \$10,085       | \$12,7                      |
| otal Costs         | (2010 NPV 5)     | \$5,880,053      | \$1,684,62     | \$1,374,515      | \$2,146,966      | 5554,025          | \$467,371      | \$446,591          | \$960,140  | \$131,963                             | \$759,800      | \$18,21                                 | \$17,723                    | \$76,251                          | \$320,677          | N/A'  | \$4,873,050                           | \$85,243       | \$44,4                      |
| Latio              |                  | 0.13             | 0.2            | 0.21             | 0.11             | 0.23              | 0.2            | 0.20               | 0.23       | 0.11                                  | 0.24           | 0.0                                     | 0.0                         | 0.26                              | 0,12               | 0.25  | 0.26                                  | 0.2            | 0.                          |
| actorpus Test Rest | lo "             |                  |                |                  |                  |                   |                |                    |            |                                       |                |   |                             | Y KALE                            | AS ES V            | CONTRACTOR OF THE PARTY OF THE | And Charles                           | E DE LA SE     | AND COLORS                  |
| ctal Renefits      | (2010 NPV \$)    | \$2,355,054      | \$1,018,666    | \$740,517        | \$768.00         | \$346.220         | \$751,877      | \$3.90,984         | \$1,109,24 | \$147,000                             | \$1,496,108    | \$23,40                                 | \$54,011                    | \$105,100                         | 5286,797           | N/A'  | 59,976,416                            | \$65,500       | \$797,6                     |
| otal Cests         | (2010 NPV 5)     | 50               | 51             | 50               | 50               | 50                | 36             | 3485,60            | \$1,036,79 | \$143,880                             | \$1,372,489    | \$24,639                                | \$123,046                   | \$67,643                          | \$40,435           | N/A <sup>r</sup>  | \$16,603,000                          | 50             |                             |
| tano               |                  |                  |                |                  |                  |                   |                | 0,68               | 1.00       | 1.00                                  | 1,29           | 0,0                                     | 0.44                        | 2.89                              | 7,00               | 1.00  | 0.0                                   |                |                             |
| ayback Parind      | 1000             |                  |                |                  |                  |                   | and makes      |                    |            |                                       |                |   |                             |                                   |                    |   | 100000                                |                | 1400 57                     |
| RC Test            | (Ym)             | N/A              | N/A            | N.A              | NO               | N/A               | N/A            | N/A                | N.J        | N /                                   | N/A            | N/A                                     | N 4                         | N/A                               | N/A                | N/A <sup>1</sup>  | N/A                                   | 10             |                             |
| UM Test.           | (Ye)             | N/A              | N.A            | N/A              | - N/A            | N/A               | N/A            | N/A                | N/A        | N/A                                   | N/A            | N/A                                     | N/A                         | N/A                               | N/A                | N/A <sup>1</sup>  | N.A                                   | N/A            | N                           |
| enticopensis Test  | (Vm)             |                  |                |                  |                  | -                 |                | N/A                |            |                                       |                | N//                                     | N/A                         |                                   |                    | No.   | NZA                                   |                |                             |

0 CX \*\* bided Statuton Invalance programs a remarkly inferred to the Critical configuration for the configuration of the configuration

2 Analyses of Tables. As and AC of CCC'2 2019 DSM plan edicine that their are programs for vision. Promption Test produced in the participating content of a participating content of a

|                   |                   | ammaraia      | 1 Decoron                   | Table 4b<br>Information | Cost E                 | Υ                       | _                            |                 |
|-------------------|-------------------|---------------|-----------------------------|-------------------------|------------------------|-------------------------|------------------------------|-----------------|
|                   | ı i               | Offilliercia  | rrogram                     | Information             | 1 - COST EI            | rectivenes              | S                            |                 |
|                   |                   |               |                             | Efficient Electric      |                        | Vindex Edux*            |                              | Cool (Reflects) |
| Program Namo      |                   | Energy Audits | Indoor lighting<br>Retrofit | Heat Pump Robates       | Duet Repair<br>Rehates | Solar Screen<br>Rehato: | Colory Involution<br>Rehales | Roof Rehales    |
| Customer Category | (RES / COM / IND) | CH.           | ea                          | et.                     | ca                     | CI                      | C4                           | ct              |
| Program Type      | (EE / DR/RE)      | HB            | EE                          | EE.                     | BE                     | RE                      | EE                           | E8 :            |
| THE Lordwoods     |                   |               |                             |                         |                        |                         |                              |                 |
| Total Henefite    | (2010 NPV 5)      | \$396,76      | \$5,665,122                 | 340,718                 | \$9,10                 | \$1,044                 | 58,12                        | \$2,012,0       |
| Total Costs       | (2010 NPV 5)      | \$1,142,840   | \$3,078.660                 | \$423,643               | \$39,570               | 520,471                 | \$31,000                     | \$4,249,7       |
| Ratio             |                   | 6.1           | 1.84                        | 0.00                    | 0.23                   | 0,0                     | 0.21                         | 0.              |
| RIM Ten Resolu    |                   | BRAM.         |                             |                         |                        |                         |                              | 0.000           |
| Lotal Renefita    | (2010 NPV 5)      | 5364,760      | \$8,305,68                  | \$42,738                | 59,10                  | \$1.040                 | \$8,121                      | \$2,012.0       |
| Tetal Corta       | (2010 NPV 5)      | \$1,818,854   | \$13,184,430                | 3138,833                | \$12,350               | \$9,215                 | \$23,613                     | \$4,001,0       |
| Retio             |                   | 0.22          | 0.50                        | 0,31                    | 0.20                   | 0.11                    | 0.34                         |                 |
| Parsolpeer Test   |                   |               |                             |                         |                        |                         |                              |                 |
| Total Benefits    | (2010 NPV \$)     | \$696,014     | \$10,105,77                 | \$325,65                | \$28,745               | 314,081                 | \$35,074                     | \$3,286.5       |
| Total Costs       | (2010 NPV'S)      | 3.0           | 50                          | 5601,656                | \$15,070               | \$19,400                | \$32,29                      | \$4,103,9       |
| Ratio             |                   |               |                             | 0.54                    | 0.1                    | 0.71                    | 1.00                         |                 |
| Payback Period    | Section 1         |               |                             | 1 September 1           |                        |                         |                              |                 |
| TRC Test          | (Yes)             | N/A           |                             | No.                     | 80.                    | 80                      | 8.5                          | N               |
| RIM Tet           | (Ym)              | NO            | 1977                        | NO                      | NI                     | 50.5                    | N/A                          | N               |
| Participents Test | (Yn)              |               |                             | N/A                     | No. 2                  | N 4                     |                              | N               |

Analyses of Tables A.) and A.2 of COV 120 DDM plus unless that there are proposes for who. Participan Test results are induced on "1.0 (Indices)". Such treads notices that the order of the participant questions for t

|                |  | Table 10   |  |
|----------------|--|--|--|
|                | Avoided  | d Unit Information   |  |
| Plant Name     |  |  | 7FA Combustion Turbine   |
| Unit No.       |  |  |  |
| Technical In   | formation  |  |  |
|                | Summer   | (MW)   | 142.1  |
|                | Winter   | (MW)   | 187.9  |
| Capacity       | Average  | (MW)   |  |
| Technology T   | Гуре   |  | Simple Cycle Combustion<br>Turbing   |
| Primary Fuel   | the state of the s |  | Natural Gas  |
| Commercial     | In-Service Date  |  | Jun-18   |
| Performance    | e Data   | A STATE OF THE STA | The second second  |
| Capacity Fac   | tor  | (%)  | The same of the sa |
| Heat Rate      |  | (Btu/kWh) (2)  | 10,888   |
| Financial Da   | ata  |  |  |
| Book Life      |  | (years)  |  |
| Total Installe | d Cost   | (\$/kW) <sup>(3)</sup>   | The second secon |
| Fixed O&M      | Cost   | (2009 \$/kW-year) (3)  | 8.6  |
| Variable O&    | .M   | (2009 \$/MWh) <sup>(3</sup>  | 15.  |
| Avoided Fue    | el   |  | RATE STATES  |
| Avoided Ene    | ergy Rate  | (\$/MWh) (4  | 12   |
|                |  | THE RESERVE TO BE ADDRESS OF THE PARTY OF TH | AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN CO |

- (1) Capacity factor shown is average capacity factor for 2018 and 2019, which are the years in which the avoided unit is in service.
- (2) Heat rate represents full load, net plant heat rate (higher heating value) at average ambient conditions.
- (3) Costs per kW, kW-year, and MWh correspond to unit's average ambient rating.
- $^{(4)}$  Avoided energy rate is calculated as the average fuel cost per MWh for the avoided unit during 2018 and 2019, plus the variable O&M cost. Value is expressed in 2009 dollars.

| Table 11                   |             |       |  |  |  |  |  |  |
|----------------------------|-------------|-------|--|--|--|--|--|--|
| Projected Rate Information |             |       |  |  |  |  |  |  |
| Residential                |             |       |  |  |  |  |  |  |
| Non-Fuel Energy<br>Rate    | (cents/kWh) | 8.536 |  |  |  |  |  |  |
| Escalation Rate            | (%)         | 2     |  |  |  |  |  |  |
| Commercial                 |             |       |  |  |  |  |  |  |
| Non-Fuel Energy<br>Rate    | (cents/kWh) | 3.586 |  |  |  |  |  |  |
| Escalation Rate            | (%)         | 2     |  |  |  |  |  |  |
| Demand Rate                | (\$/kW-mo)  | 7.98  |  |  |  |  |  |  |
| Escalation Rate            | (%)         | 2.5   |  |  |  |  |  |  |

| Table 12<br>Line Loss Values |     |     |  |  |  |  |  |
|------------------------------|-----|-----|--|--|--|--|--|
| Residential                  |     |     |  |  |  |  |  |
| Energy Percentage            | (%) | 3.9 |  |  |  |  |  |
| Energy Percentage            | (%) | 3.9 |  |  |  |  |  |
| Commercial                   |     |     |  |  |  |  |  |
| Energy Percentage            | (%) | 3.9 |  |  |  |  |  |
| Energy Percentage            | (%) | 3.9 |  |  |  |  |  |

Attachment 3

Docket 100161-EG

**OUC Response to Staff's First Data Request** 

30% of cost up to \$1,500

**Expires:** 

December 31, 2010

**Details:** 

Must be an existing home & your principal residence. New construction and rentals do not qualify.

# **Biomass Stoves**

Biomass stoves burn biomass fuel to heat a home or heat water. Biomass fuel includes agricultural crops and trees, wood and wood waste and residues (including wood pellets), plants (including aquatic plants), grasses, residues, and fibers.

30% of cost up to \$1,500

**Expires:** 

December 31, 2010

Details:

Must be an existing home & your principal residence. New construction and rentals do not qualify.

# Heating, Ventilating, Air Conditioning (HVAC)

# Advanced Main Air Circulating Fan

An Advanced Main Air Circulating Fan is an efficient fan, or blower motor which blows the air that your furnace heats up through the duct system.

#### Requirements

Must use no more than 2% of the furnace's total energy. Note: If the fan is qualified, but the furnace is not, you will not be able to take 30% off the cost of the entire furnace. Ask your HVAC contractor to break out the cost of the fan in your bill. You can get a 30% tax credit on the cost of the fan alone.

Tax Credit includes installation costs.

### More Information

How to apply

Advanced Main Air Circulating Fan FAQs

## Air Source Heat Pumps

Heat pumps offer an energy-efficient alternative to furnaces and air conditioners in moderate climates. Like your refrigerator, heat pumps use electricity to move heat from a cool space into a warm, making the cool space cooler and the warm space warmer. During the heating season, heat pumps move heat from the cool outdoors into your warm house; during the cooling season, heat pumps move heat from your cool house into the warm outdoors. Because they move heat rather than generate heat, heat pumps can provide up to 4 times the amount of energy they consume.

## Requirements

Split Systems:

HSPF ≥ 8.5

EER ≥ 12.5

SEER ≥ 15

### Package systems:

HSPF≥8

EER ≥ 12

SEER ≥ 14

Tax Credit includes installation costs.

See Definitions.

### More Information

How to apply

Air Source Heat Pumps FAQs

# Central Air Conditioning (CAC)

The best way to find tax credit eligible CACs is to ask your HVAC Contractor (Heating Ventilation and Air Conditioning). To verify tax credit eligibility, ask your HVAC contractor to provide the <u>Manufacturer Certification Statement</u> for the equipment you plan to purchase. Or, search the Manufacturer's website.

## Requirements

Split Systems: SEER ≥ 16 EER ≥ 13

## Package systems:

SEER ≥ 14 EER ≥ 12

Tax Credit includes installation costs.

See definitions.

### More Information

How to apply

CAC FAQS

# Gas, Propane, or Oil Hot Water Boiler

These are heating units that use water circulated throughout the home in a system of baseboard heating units, radiators, and/or in-floor radiant tubing.

# Requirements

AFUE ≥ 90

Tax Credit includes installation costs.

### See definitions.

### **More Information**

How to apply

Boiler FAQs

# Natural Gas or Propane Furnace



A furnace uses the combustion of fuel and air to create heat.

### Requirements

AFUE ≥ 95

Tax Credit includes installation costs.

# More Information

How to apply

Gas Furnace FAQs

# Oil Furnace



A furnace uses the combustion of fuel and air to create heat.

# Requirements

AFUE ≥ 90

Tax Credit includes installation costs.

# More Information

How to apply

Oil Furnace FAQs

30% of cost up to \$1,500

**Expires:** 

December 31, 2010

Details:

Must be an existing home & your principal residence. New construction and rentals do not qualify.

## Insulation



Adding adequate insulation is one of the most cost-effective home improvements that you can do.

### Requirements

Typical bulk insulation products can qualify, such as batts, rolls, blow-in fibers, rigid boards, expanding spray, and pour-in-place.

Products that air seal (reduce air leaks) can also qualify, as long as they come with a Manufacturers Certification Statement, including:

Weather stripping

Spray foam in a can, designed to air seal

Caulk designed to air seal

House wrap

Tax Credit does NOT include installation costs. But, you can install the insulation/home sealing yourself and get the credit.

See definitions.

## More Information

How to apply

Insulation FAQs

Insulation efficiency through Home Performance with ENERGY STAR

Heat & Cool Efficiently at Home

30% of cost up to \$1,500

**Expires:** 

December 31, 2010

Details:

Must be an existing home & your principal residence. New construction and rentals do not qualify.

# Roofs (Metal & Asphalt)

Qualified roof products reflect more of the sun's rays, which can lower roof surface temperature by up to 100F, decreasing the amount of heat transferred into your home.

## Requirements

"Metal roofs with appropriate pigmented coatings" and "asphalt roofs with appropriate cooling granules" that also meet ENERGY STAR requirements.

Tax Credit does NOT include installation costs.

## More Information

How to apply

Roofing - Metal & Asphalt FAQs

30% of cost up to \$1,500

**Expires:** 

December 31, 2010

**Details:** 

Must be an existing home & your principal residence. New construction and rentals do not qualify.

# Water Heaters (non-solar)

# Gas, Oil, Propane Water Heater



Water heating can account for 14%–25% of the energy consumed in your home.

### Requirements

Energy Factor ≥ 0.82 **OR** a thermal efficiency of at least 90%.

Tax Credit includes installation costs.

See definitions.

## More Information

How to apply

Gas, Oil, Propane, Water Heaters FAQs

# **Electric Heat Pump Water Heater**



Water heating can account for 14%-25% of the energy consumed in your home.

# Requirements

Energy Factor ≥ 2.0

Tax Credit includes installation costs.

## More Information

How to apply

30% of cost up to \$1,500

Expires:

December 31, 2010

Details:

Must be an existing home & your principal residence. New construction and rentals do not qualify.

### Windows & Doors

### Windows, Doors, Skylights



Energy efficient windows, doors and skylights can reduce energy bills.

#### Requirements

U factor <=0.30 SHGC <=0.30

Tax Credit does NOT include installation costs.

See definitions.

## **More Information**

How to apply

Windows, Doors, Skylights FAQs

# Storm Windows & Doors

A less expensive approach to replacing old windows/doors, is to use storm windows to improve energy efficiency. When installed in combination with older, less efficient window/door, storm windows/doors can enhance efficiency by creating another barrier between the interior of you home and the weather outside.

## Requirements

In combination with the exterior window/door over which it is installed:

U-factor and SHGC of 0.30 or below

Must meet the IECC

Tax Credit does NOT include installation costs.

See definitions.

# More Information

How to apply

Storm Windows & Doors FAQs

30% of cost with no upper limit

**Expires:** 

December 31, 2016

Details:

Existing homes & new construction qualify. Both <u>principal residences</u> and second homes qualify. Rentals **do not** qualify.

# **Geothermal Heat Pumps**

Geothermal heat pumps are similar to ordinary heat pumps, but use the ground instead of outside air to provide heating, air conditioning and, in most cases, hot water. Because they use the earth's natural heat, they are among the most efficient and comfortable heating and cooling technologies currently available.

## Requirements

Closed Loop: EER ≥ 14.1 COP ≥ 3.3

Open Loop: EER ≥ 16.2 COP ≥ 3.6

Direct Expansion: EER ≥ 15 COP ≥ 3.5

Tax Credit includes installation costs.

See definitions.

## More Information

How to apply

Geothermal Heat Pump FAQs

All ENERGY STAR geo-thermal heat pumps qualify for the tax credit.

What about water-to-water geothermal heat pumps?

30% of cost with no upper limit

Expires:

December 31, 2016

**Details:** 

Existing homes & new construction qualify. Both <u>principal residences</u> and second homes qualify. Rentals **do not** qualify.

# Small Wind Turbines (Residential)

A wind turbine collects kinetic energy from the wind and converts it to electricity that is compatible with a home's electrical system.

### Requirements

Must have a nameplate capacity of no more than 100 kilowatts.

Tax Credit includes installation costs.

30% of cost with no upper limit

**Expires:** 

December 31, 2016

Details:

Existing homes & new construction qualify. Both <u>principal residences</u> and second homes qualify. Rentals **do not** qualify.

# Solar Energy Systems

#### Solar Water Heaters

Solar water heaters come in a wide variety of designs, all including a collector and storage tank, and all using the sun's thermal energy to heat water. Solar water heaters are typically described according to the type of collector and the circulation system.

### Requirements

At least half of the energy generated by the "qualifying property" must come from the sun. The system must be certified by the Solar Rating and Certification Corporation (SRCC) or a comparable entity endorsed by the government of the state in which the property is installed.

Note: The credit is not available for expenses for swimming pools or hot tubs. The water must be used in the dwelling.

Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirement.

Tax Credit includes installation costs.

#### More Information

How to apply

Solar Water Heater FAQs

All ENERGY STAR Qualified solar water heaters qualify for the tax credit.

## Solar Panels (Photovoltaic Systems)

Solar Panels or Photovoltaic Systems are solar cells that capture light energy from the sun and convert it directly into electricity.

#### Requirements

Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirement.

Credit Details: 30% of the cost, up to \$500 per .5 kW of power capacity

Expires:

December 31, 2016

Details:

Existing homes & new construction qualify. Must be your <u>principal residence</u>. Rentals and second homes **do not** qualify.

# Fuel Cells (Residential Fuel Cell and Microturbine System)

Fuel cells are an important enabling technology for the hydrogen economy and have the potential to revolutionize the way we power our nation, offering cleaner, more-efficient alternatives to the combustion of gasoline and other fossil fuels.