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February 16, 2018

**BY E-PORTAL**

Ms. Carlotta Stauffer  
Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

**Re: DOCKET NO. 20170179-GU - Petition for rate increase and approval of depreciation study by Florida City Gas.**

Dear Ms. Stauffer:

Attached, for electronic filing, please find the testimony and exhibits of Florida City Gas' rebuttal witness Dane Watson. (Document 4 of 10)

Sincerely,

A handwritten signature in cursive script, appearing to read 'Beth Keating', written over a horizontal line.

Beth Keating  
Gunster, Yoakley & Stewart, P.A.  
215 South Monroe St., Suite 601  
Tallahassee, FL 32301  
(850) 521-1706

**ATTACHMENTS**

cc:// Office of Public Counsel  
FEA

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FLORIDA CITY GAS COMPANY  
Before the Florida Public Service Commission  
Rebuttal Testimony of  
Dane A. Watson  
Docket No. 20170179-GU  
In Support of Rate Relief  
Date of Filing: February 16, 2018

**I. INTRODUCTION, QUALIFICATIONS, PURPOSE OF  
TESTIMONY AND RECOMMENDATIONS**

- Q. Please state your name, business address, and occupation.
- A. My name is Dane Watson. My business address is 101 E. Park Blvd, Suite 220, Plano, TX 75074. I am the Managing Partner in Alliance Consulting Group (“Alliance”).
- Q. Have you previously filed testimony in this proceeding?
- A. Yes. I submitted Direct Testimony.
- Q. What is the purpose of your Rebuttal testimony?
- A. The purpose of my testimony is to rebut Florida’s Office of Public Counsel (“OPC”) Witness Garrett’s position on the topic of depreciation. Specifically, in the sections that follow, I will discuss:
- Life parameters for various Distribution plant accounts. Specifically, I will address Accounts 376.2, 379, 380.2, 382 and 385 where Mr. Garrett has proposed longer lives than those used to develop depreciation rates in the depreciation study I sponsored as Florida City Gas Exhibit No. DAW-2 filed in Docket number 2017079-GU;

- 1 • Mr. Garrett's proposed increase (less negative) change to Net Salvage for  
2 Account 380.1 – Steel Mains; and  
3 • The proposed depreciation rates computed by Mr. Garrett.  
4

5 Q. Are you sponsoring any rebuttal exhibits?

6 A. Yes. I am sponsoring three exhibits. These exhibits were prepared under  
7 my supervision, and to the best of my knowledge, the information contained  
8 in these exhibits is true and correct.  
9

10 Q. What recommendations are you making in your rebuttal testimony?

11 A. I recommend that the Florida Public Service Commission ("Commission")  
12 approve the annual depreciation rates as presented in the appendices to  
13 the Depreciation Rate Study, Exhibit DAW-2. Appendices A-1 and A-2  
14 calculate the annual depreciation rates for LNG, Distribution and General  
15 Plant respectively. Appendix B shows the Comparison of the Annual  
16 Depreciation Accrual.  
17

## 18 II. RESPONSE TO OPC'S POSITIONS

19 Q. What topics will you address in this section of your rebuttal testimony?

20 A. In this section of my rebuttal testimony, I will address the revised individual  
21 account life and curve parameters being proposed by Mr. Garrett.  
22

23 Q. What accounts are being challenged by Mr. Garrett?

24 A. Mr. Garrett has recommended changes in life for five accounts in the

1 distribution function.<sup>1</sup> The Table shown below is a summary of the plant  
 2 accounts: Existing, FCG Proposed, and OPC Proposed life and survivor  
 3 curve parameters. I have also prepared Rebuttal Exhibit DAW-4 that  
 4 provides the same information along with Florida Utility lives I reference for  
 5 comparison in the following sections.

**Summary by Proposed-Life Parameters by Account**

<u>Account</u>	<u>Existing</u>		<u>FCG Proposed</u>		<u>OPC Proposed</u>	
	<u>Life</u>	<u>Curve</u>	<u>Life</u>	<u>Curve</u>	<u>Life</u>	<u>Curve</u>
376.02 Mains- Plastic	42	S3	55	S3	59	S3
379.00 M&R Equipment City Gate	30	S4	35	S4	39	R0.5
380.20 Services-Plastic	34	S4	45	S4	54	R2.5
382.00 Meter Installations	34	S3	30	S3	34	S3
385.00 Industrial M&R Equipment	30	R3	30	R3	37	R2

6

7 Q. What are Mr. Garrett's issues with Company's proposals?

8 A. Mr. Garrett offers several reasons to justify rejecting certain Company's  
 9 recommendations.

- 10 • First, Mr. Garrett agrees with the Company that the amount of data  
 11 available for actuarial analysis<sup>2</sup> for each of these five accounts is limited and  
 12 not fully predictive of the life of the accounts. However, this is not a new  
 13 phenomenon. FCG's depreciation studies have been filed every five years  
 14 before this Commission in years 1999, 2003, 2008, and 2013. In each of  
 15 those proceedings, the Company and Commission Staff worked diligently  
 16 together to determine proposed parameters without the use of actuarial  
 17 analysis. While the Company should be commended for beginning to

<sup>1</sup> Direct Testimony of David J. Garrett, Exhibit DJG-20 and DJG-21.

<sup>2</sup> Direct Testimony of David J. Garrett, 110.

1           develop an actuarial data base, reasonable life estimated can be made (as  
2           they have in the past) based on other specific company and more  
3           generalized information.

4           •     Second, in discarding the use of actuarial analysis, Mr. Garret unfortunately  
5           also disregards important Company-specific information from Company  
6           subject matter experts (“SMEs”). These SME’s are knowledgeable about  
7           the assets being studied and deal with these assets as part of their work  
8           assignments. Their input should be invaluable given the small level of  
9           analytical data but is unused by Mr. Garrett. Mr. Garrett additionally  
10          mischaracterizes their involvement stating, “...FCG personnel simply told its  
11          independent expert about how long it “feels” its assets will survive and the  
12          expert has partially based his recommendation on the feelings of Company  
13          personnel”.<sup>3</sup> I will address this important factor further in each account.

14          •     Third, after discarding the input of SME’s, Mr. Garrett only offers “cherry-  
15          picked” cases in other jurisdictions like Oklahoma and Texas with different  
16          life parameters to justify his proposals without establishing that those  
17          Companies are comparable to FCG in its operations and geography – and  
18          surprisingly, **ignores the approved life parameters for other Florida**  
19          **utilities.**

20          •     Fourth, even though there is limited data and no “good” fit in the analysis,  
21          Mr. Garrett relies on actuarial analysis for his Account 382 – Meter  
22          Installation recommendation. Mr. Garrett’s again ignores the input of SME’s  
23          in making his recommendation for this account.

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<sup>3</sup> Direct Testimony of David J. Garrett, 111:1-3.

- 1 • Finally, Mr. Garrett offers meaningless lab results from Australia as a basis  
2 for extending the life of plastic pipe even longer than the Company's  
3 significant life extension.<sup>4</sup>

4

5 Q. How did you gather the information from the SME's you reference in your  
6 depreciation study?

7 A. When conducting a complete depreciation study, one of the key aspects is  
8 to conduct interviews and do a field trip to where Company assets are  
9 present. I met with Company personnel to discuss various operating and  
10 maintenance practices, past, present, and future projects, and other  
11 account specific information that was relevant to life and net salvage  
12 expectations in the future, as well as a field trip to view some of the  
13 Company's assets.

14

15 Q. Is Mr. Garrett's ignoring the opinion of SME's in line with depreciation  
16 theory?

17 A. No. Public Utility Depreciation Practices, published by the National  
18 Association of Regulatory Utility Commissioners ("NARUC"), advises  
19 against strict reliance on historical data and fitting, and they state,  
20 "Depreciation analysts should avoid becoming ensnared in the historical life  
21 study and relying solely on mathematical solutions. The reason for making  
22 an historic life analysis is to develop a sufficient understanding of history in  
23 order to evaluate whether it is a reasonable predictor of the future. The

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<sup>4</sup> Direct Testimony of David J. Garrett, 114: 3-11.

1 importance of being aware of circumstances having direct bearing on the  
2 reason for making an historical life analysis cannot be understated.... The  
3 analyst should become familiar with the physical plant under study and its  
4 operating environment, including **talking with the field people who use**  
5 **the equipment being studied.** (Emphasis added).<sup>5</sup> This information is of  
6 critical importance in the depreciation study process, not a “feel right”  
7 exercise as Mr. Garrett mischaracterizes it.

8 Another authoritative text, Depreciation Systems, also endorses the  
9 importance of the interview and field trip process.

10 Field trips are an important part of the data assembly phase.  
11 They provide firsthand information on the operation of the  
12 system, the physical characteristics of the plant under study,  
13 the attitudes of operating and management personnel, and  
14 other characteristics that cannot be obtained in any other way.  
15 This information can be useful when interpreting historical  
16 data as well as when forecasting. The vivid impressions  
17 acquired through a field inspection are useful when supporting  
18 as well as formulating conclusions reached in the course of a  
19 study.<sup>6</sup>

20

21

## **LIFE RECOMMENDATIONS**

22

### **ACCOUNT 376.2 PLASTIC MAINS**

23

Q. What are the differences in positions for this account?

24

A. Account 376.2 Plastic Mains is the largest account for Florida City Gas

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<sup>5</sup> Public Utility Depreciation Practices, NARUC, 1996, 126.

<sup>6</sup> Depreciation Systems, Iowa State University Press, 1994, 288.

1 based on estimated plant as of July 31, 2018, containing approximately  
2 35% of the Company's plant base. The average age of investment in this  
3 account at December 31, 2016 is 11.56 years.<sup>7</sup> I am proposing an increase  
4 from 40 years to 55 years (a 37.5% increase) based on input from Company  
5 personnel and Company-specific programs. Mr. Garrett proposes a further  
6 extension to a 59 year life.

7

8 Q. What support does Mr. Garrett offer for his position?

9 A. Mr. Garrett agrees with me that there is limited actuarial data for analysis.  
10 However, he discards the significant information from Company personnel  
11 and approved lives for other Florida companies while offering what he calls  
12 an objective basis "to gauge the reasonableness of a recommendation".<sup>8</sup>  
13 The "objective basis" Mr. Garrett offers is his own opinion of the analysis<sup>9</sup>  
14 from a Peoples Gas System depreciation filing and one cherry-picked filing  
15 from Texas and a quote from the Plastics Industry Pipe Association of  
16 Australia<sup>10</sup> regarding lab test results that mentions a life of 100 years.

17

18 Q. What lives are used by other gas companies in the state of Florida for this  
19 account?

20 A. The table below shows the lives I found for other Florida gas utilities for this  
21 account.

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<sup>7</sup> OPC Discovery Set 1, Response, Folder Averages.

<sup>8</sup> Direct Testimony of David J. Garrett, 112:11-12.

<sup>9</sup> Direct testimony of David J. Garrett, 113: footnote 115 where his statement that PGS data "indicated that the average service life of the account was much greater than 55 years" is based on **his own** preliminary report.

<sup>10</sup> Direct Testimony of David J. Garrett, 114:1-8.



1

**Approved Lives Other Florida Utilities – Account 376.2**

Company	Life	Curve
Peoples Gas	55	R2
Florida Public Utilities	45	S3
Chesapeake Utilities Central Florida	45	S3
Sebring Gas System	45	

2

The lives for these companies were established in the following proceedings: People Gas Docket No. 160159-GU, Florida Public Utilities and Chesapeake Utilities Central Florida Docket No. 140016-GU, and Sebring Gas System Docket 110233-GU. Note that the approved life for People Gas is the 55 year life above, despite Mr. Garrett’s assertion that the data “indicated” that the average service life was much greater than 55 years.<sup>11</sup>

9

10 Q. What lives has the Commission approved in the past for this account?

11 A. The past four FCG depreciation cases before this Commission approved a  
12 40 year life for this account. My proposed life of 55 S3 for this account is a  
13 significant increase (37.50%) from the existing life of 40 S3. Mr. Garrett’s  
14 proposal would increase the life of the Company’s assets in this account by  
15 47.5% from current levels in a proceeding that occurred five years ago and  
16 an additional 10% above FCG’s proposal in this case.

17

18 Q. What information did interviews with operations personnel provide about the  
19 life characteristics of the assets in this account?

---

<sup>11</sup> Direct Testimony of David J. Garrett, 113:5-7.

1 A. Interviews with Company personnel revealed that the Company is in the  
2 process of replacing early vintage plastic pipe. Company personnel state  
3 that 10% to 15% of plastic is the early vintage plastic. Resins and  
4 installation practices (e.g. backfill, etc....) would drive a shorter life for  
5 earlier vintages. The company sees no indications of substandard  
6 installation practices in newer vintages and they have identified no issues  
7 with the newer resins. In the opinion of Company personnel, moving longer  
8 than 40 years is reasonable. The estimate of early vintage pipe  
9 (approximately 15% of the total at 35 years) and the remaining assets (85%  
10 at 60 years) would produce a composite life around 55 years.<sup>12</sup> I proposed  
11 retaining the existing approved dispersion of S3 with the longer life of 55  
12 years.

13

14 Q. Is Mr. Garrett's reference to a 100 year life for plastic pipe an "objective  
15 basis" for setting a life?

16 A. No. Plastics Industry Pipe Association of Australia is a trade organization  
17 on another continent. The article quoted mentions lab results, and does not  
18 factor in operational realities, and with these limitations still recognizes a  
19 minimum life span of 50 years, which is below my recommendation.

20

21 Q. What do such lab tests measure?

22 A. Laboratory testing focuses on the pipe's ability to withstand internal stress.  
23 No consideration was given to external factors such as soil conditions,

---

<sup>12</sup> The composite numbers quoted above produce an average life of 56.25 years.

1 system operating pressures, maintenance procedures, street widening,  
2 system growth and forces of nature that will impact life expectations for the  
3 property. In a Texas case, this same issue was raised by another  
4 intervenor. Attached as Exhibit DAW-5, is a copy of an affidavit which was  
5 presented in that case given by an employee of a pipe manufacturing  
6 company in my rebuttal testimony who states that lab test results do not  
7 factor in any of the realities of plastic main operations. Even Mr. Garrett is  
8 unwilling to use this report to set the life at 100 years or more.<sup>13</sup>

9

10 Q. What other information does Mr. Garrett offer to support his position?

11 A. Other than the lab result data and the erroneous representation of the life  
12 for People's Gas, Mr. Garrett also mentions a Texas case for CenterPoint  
13 Energy where I recommended a 63 year life based on SPR analysis,  
14 discussion with Company personnel and Texas specific circumstances.

15

16 Q. What is the issue with Mr. Garrett comparing your recommendations in  
17 other cases and entities to Florida City Gas?

18 A. My recommendations are specific to each entity and are not based on  
19 industry averages. Florida climate and soil conditions vary from the Texas  
20 service area of CenterPoint and there is no evidence that the CenterPoint  
21 life factors in the replacement of its early vintage plastic pipe. The life  
22 approved in that case is irrelevant to Florida City Gas.

23

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<sup>13</sup> Direct Testimony of David J. Garrett, 114:9-10.

1 Q. Please summarize your position

2 A. My recommendation for Account 376.2 is supported by key information from  
3 Company personnel, discussions with field personnel, field trips, all facts  
4 and circumstances specific to FCG. Additionally, my recommendation  
5 already reflects a 15 year increase over existing to a 55 year life and there  
6 is nothing specific to FCG to support moving it even longer at this time. My  
7 recommendation, 55 S3, should be approved along with the rates shown in  
8 Appendix A and B of my filed Exhibit DAW-2 for this account.

9

10 **ACCOUNT 379 M&R EQUIPMENT - CITY GATE**

11 Q. What are the different positions that you and Mr. Garrett have for this  
12 account?

13 A. The current life for this account is a 30 S4. I propose increasing the life to  
14 35 years while retaining the S4 dispersion. Mr. Garrett proposes a 39 R0.5  
15 curve for this account, an increase of 26.7 percent from the current life of  
16 this account established five years ago.

17

18 Q. What type of assets is in this account and what are the typical forces of  
19 retirement for these assets?

20 A. This account includes measuring and regulating station piping, controls,  
21 odorizers and other equipment used at city gate stations. Assets in this  
22 account are being replaced with more electronic components and stations  
23 may be rebuilt to serve increased load. In my experience, the life of  
24 equipment in this account is similar to Account 378- Measuring and  
25 Regulating Equipment, which has a proposed life of 30 S3 that Mr. Garrett

1 does not challenge. The average age of investment in this account at  
2 December 31, 2016 is 18.17 years.<sup>14</sup>

3

4 Q. What information did you obtain from interviews of Company personnel that  
5 you considered in forming your life recommendation?

6 A. As stated in Exhibit DAW-2, page 38,

7

8 As mentioned in Account 378, there appears to be more recent physical  
9 retirements than is reflected in the Company's Continuing Property Record.  
10 Company personnel report that the NW Hialeah station has been  
11 completely rebuilt over the last few years, and Port St. Lucie was replaced  
12 in 2015 (29 years old at retirement). Some stations may have been  
13 renewed and rebuilt (under capital). A very small proportion of the account  
14 (only \$300K) is over 30 years old. Some modernization is planned but not  
15 necessarily full replacement soon. Company personnel feel that 35 years is  
16 a reasonable estimate for this account.

17

18 I incorporated this important information to develop the proposed estimate for this  
19 account.

20 Q. What evidence does Mr. Garrett offer to support his recommended 39  
21 R0.5?

22 A. Mr. Garrett misstates a recommendation for account 390 in his testimony  
23 versus the subject account.<sup>15</sup> He references a Texas case for this account.

24 A sample of one company should not be considered sufficient and does not  
25 meet the burden of proof, nor does Mr. Garrett establish a parallel between  
26 Florida City Gas and CenterPoint Texas that would make such a  
27 comparison relevant.

28

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<sup>14</sup> OPC Discovery Set 1, Response, Folder Averages.

<sup>15</sup> Direct Testimony of David J. Garrett, 116:8-12.

1 Q. What lives are used by other gas companies in the state of Florida for this  
2 account?

3 A. The table below shows the lives I found for other gas utilities for this  
4 account.

5 **Approved Lives Other Florida Utilities – Account 379**

Company	Life	Curve
Peoples Gas	31	R1
Florida Public Utilities	30	S4
Chesapeake Utilities Central Florida	30	S4
Sebring Gas System	32	

6

7 Q. What lives has the Commission approved in the past for this account for  
8 FCG?

9 A. This Commission approved a 30 S4 in the past four FCG depreciation  
10 cases for this account. My proposed life of 35 S4 for this account is a slight  
11 increase from the existing life. Mr. Garrett's proposal would increase the life  
12 of the Company's assets in this account by 26.7% from current levels in a  
13 proceeding that occurred five years ago. Such a proposal is unwarranted  
14 based on FCG's operations and assets. The basis of one Texas Company  
15 does not constitute proof and it does not give adequate consideration to the  
16 unique operating conditions and environment of FCG. I recommend that my  
17 proposed life for this account be approved.

18

19 **ACCOUNT 380.2 PLASTIC SERVICES**

20 Q. What are the different lives being proposed for this account?

1 A. The current life for this account is a 34 S4. I propose increasing the life to  
2 45 years while retaining the S4 dispersion. Mr. Garrett proposes a 54 R2.5  
3 curve for this account, an increase of 58.8 percent from the current life of  
4 this account established five years ago.

5

6 Q. What types of assets are in this account?

7 A. This account includes plastic distribution services which run from the  
8 distribution main to the customer. This account is the second largest in  
9 terms of plant based on estimated plant balances at July 31, 2018. Based  
10 on estimated plant, there is more than four times as many dollars of capital  
11 investment in plastic versus steel. The average age of investment in this  
12 account at December 31, 2016 is 11.67 years.<sup>16</sup>

13 Q. What are the typical forces of retirement in this account in your experience?

14 A. Forces of retirement in this account might result from the pressure in which  
15 gas is delivered, types of resins, street widenings, soil conditions, growth,  
16 and forces of nature.

17

18 Q. What important information did you factor in from your interviews of  
19 Company personnel?

20 A. Company personnel report that most new services are plastic. They add  
21 there had been improvements in resin technology that could support a  
22 longer life expectation of 45 years. The 45 year life is reasonable and  
23 similar to the proposed move for Account 376.2, Plastic Mains. With so

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<sup>16</sup> OPC Discovery Set 1, Response, Folder Averages.

1 much new investment and the widest placement band, the analysis will give  
2 an inaccurate picture with early generation resin assets retiring earlier than  
3 newer assets installed in recent years.

4

5 Q. What evidence does Mr. Garrett offer to support his recommended 54 R2.5  
6 curve?

7 A. Mr. Garrett offers a life parameter for one Oklahoma Company, which has a  
8 58 year life approved through a *settlement*.<sup>17</sup> As I have stated repeatedly, a  
9 sample of one company is not sufficient to establish life. Additionally, Mr.  
10 Garrett fails to establish the similarity between Oklahoma Natural Gas and  
11 Florida City Gas, nor does he mention any comparable account life  
12 parameters from any Florida cases.

13 Q. Is there actuarial data available to analyze this account?

14 A. Yes. However, the life results show a much shorter life than is being  
15 proposed in this case. Historical data reflects the retirement of early  
16 generation plastic services (similar to the retirement of early generation  
17 plastic mains, Account 376.20, which I discussed earlier). The graph below  
18 shows the Company's historic experience. Retirement information is  
19 available from 2005 forward, and historic placements begin in the early  
20 1960s. The graph below shows three different symbols: blue triangles  
21 which represent the Company's actual experience, the green rectangles  
22 which show the Company's proposal, and finally the light blue upside down  
23 triangles which represent OPC's proposal. Note that the Company's actual

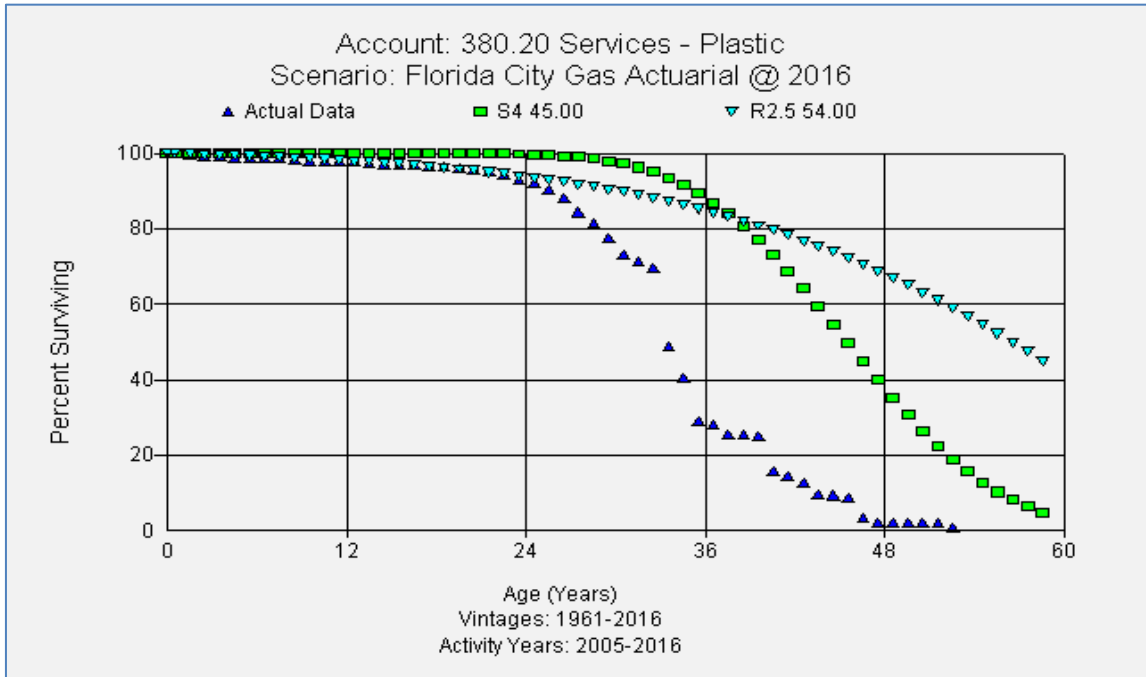
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<sup>17</sup> Direct Testimony of David J. Garrett, 118:6-15.



1 data shows a much shorter life than either proposal.

2



3

4 OPC's proposed life would result in a much longer remaining life that is not  
 5 supported by interviews with Company personnel.

6

7 Q. What lives are used by other gas companies in the state of Florida for  
 8 this account?

9 A. The table below shows the lives I found for other gas utilities for this  
 10 account.

11

12 **Approved Lives Other Florida Utilities – Account 380.2**

Company	Life	Curve
Peoples Gas	40	R3
Florida Public Utilities	45	R2

Chesapeake Utilities Central Florida	45	R2
Sebring Gas System	40	

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Q. What lives has the Commission approved in the past for this account?

A. The Commission has approved, in the past four FCG depreciation cases, a 34 year life for this account. My proposed life of 45 S4 for this account is a significant increase from the existing life of 34 S4. Mr. Garrett’s proposal would increase the life of the Company’s assets in this account by 58.8% from current levels in a proceeding that occurred five years ago. Furthermore, his proposal is a 20% increase from my recommendation. Mr. Garrett’s proposal is also beyond what other Florida companies have currently approved, for the same account, as shown above in the table. Such a proposal is unwarranted based on FCG’s operations and assets. Mr. Garrett has not provided any additional information or relevant comparisons to other companies. Therefore, I recommend the Commission approve my 45 S4 for this account.

**ACCOUNT 382 METER INSTALLATIONS**

Q. What types of assets are in Account 382 Meter Installations?

A. The assets in Account 382 are installations costs for meters and include the meter bars. The current life for this account is a 34 S3. I propose decreasing the life to 30 years while retaining the S3 dispersion. Mr. Garrett proposes retaining the 34 S4 curve for this account.

Q. What important information did you received from Company personnel

1 regarding the life of this account?

2 A. The average age of investment in this account at December 31, 2016 is  
3 13.43 years.<sup>18</sup> As stated in my filed Exhibit DAW-2, "Discussion with  
4 Company personnel indicated FCG has been using pre-manufactured meter  
5 bars for at least the last 10 years. There are some areas (Brevard) that are  
6 more corrosive and it will have to replace the entire set when pulling a  
7 meter, but generally they will not." Based on their experience, Company  
8 personnel felt that the current 34 year life is too long for this account, and  
9 state the meter set assemblies (MSA) can have as low as a 10 year life, but  
10 generally are expected to last longer than 10 years. Company personnel  
11 believe a more reasonable life expectation is in the range of 20-30 years.<sup>19</sup>

12  
13 Q. Were you able to perform actuarial analysis on this account?

14 A. Yes. However, I do not feel that actuarial analysis or curve matching should  
15 be the primary criteria in establishing the life of this account. As evidenced  
16 by the graph included in Mr. Garrett's testimony, neither of our  
17 recommendations match the small amount of experience available for this  
18 account. In other words, the actuarial analysis is not predictive of the life of  
19 the account at this point.

20  
21 Q. What does Mr. Garrett rely on to support his proposal?

22 A. Mr. Garrett relies on mathematical fitting to minimize the sum of squared  
23 differences between his proposed curve and the observed data compared

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<sup>18</sup> OPC Discovery Set 1, Response, Folder Averages.

<sup>19</sup> Direct Testimony of Dane A. Watson, Exhibit DAW-2, 49-50.

1 to my proposal.<sup>20</sup>

2

3 Q. Do you calculate mathematical fitting in your life analysis.

4 A. Yes. However, as I stated earlier, the results in this case are not sufficient  
5 to be predictive of the life of the account – especially when it contradicts or  
6 is not supported by information from SME's on their actual experience with  
7 these assets.

8

9 Q. What relevant information did Company personnel provide regarding this  
10 account?

11 A. Company personnel during interviews indicated there is a trend in Account  
12 381, Meters due to technology, to which the installations are paired. Moving  
13 the life longer for this account would create unwarranted disparity between  
14 the two accounts.

15

16 Q. What do authoritative treatises say regarding mathematical matching?

17 A. NARUC provides the following guidance: "Depreciation analysts should  
18 avoid becoming ensnared in the mechanics of the historical life study and  
19 relying solely on mathematical solutions."<sup>21</sup> Here, Mr. Garrett's approach  
20 relies solely upon mathematical solutions, which resulted in a facially  
21 unreasonable result.

22

23 Q. How many bands does Mr. Garrett present in evidence?

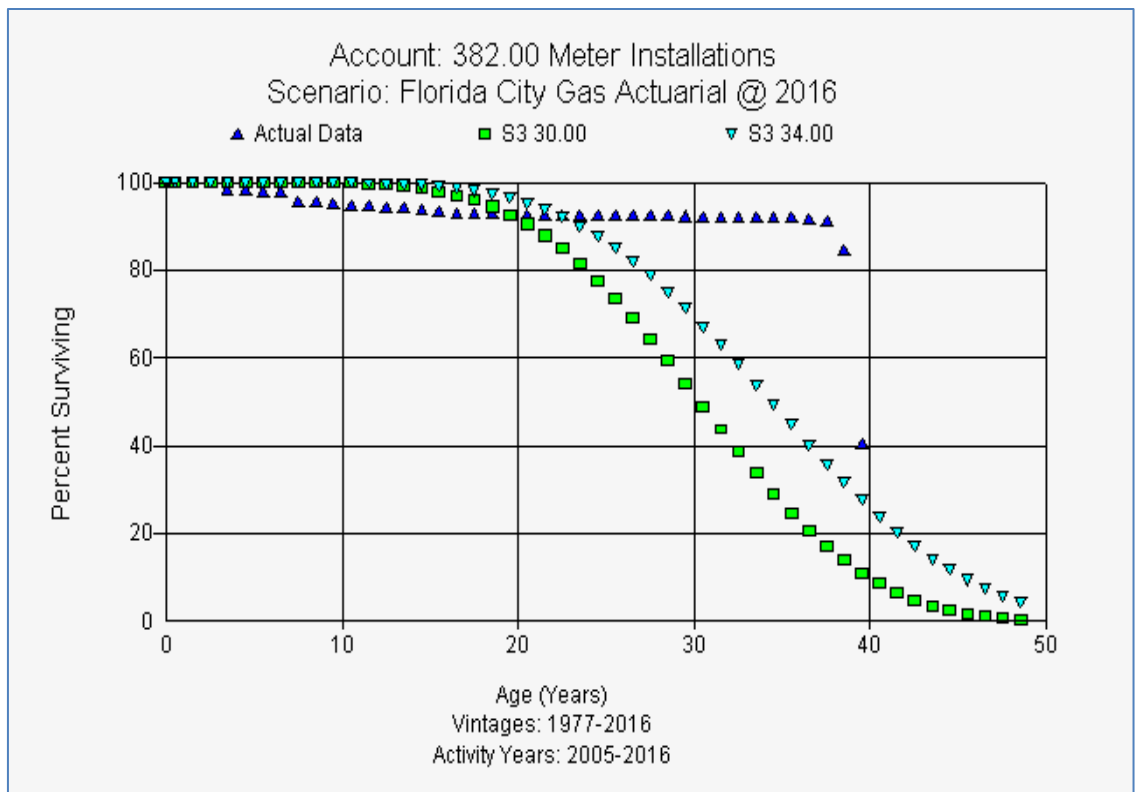
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<sup>20</sup> Direct Testimony of David J. Garrett, 122-123.

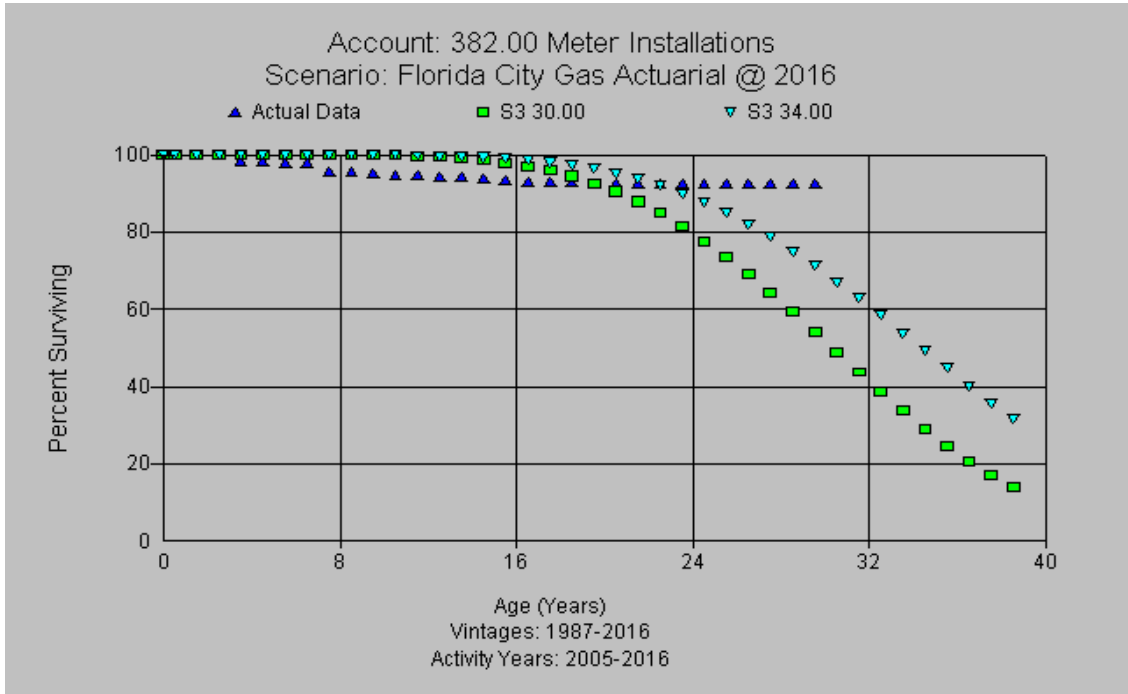
<sup>21</sup> NARUC Public Utility Depreciation Practices, 126.

1 A. Mr. Garrett shows the overall band of 1959-2016 with an experience band  
2 of 2005-2016. In contrast, I fitted multiple bands to the data. The graphs  
3 below use the same pattern of symbols for the Company's actual data, the  
4 proposed life, and OPC's proposed life which were presented in the  
5 discussion for Account 380.2. In reality, neither curve is a good fit nor can it  
6 provide enough support to use independently for a life estimate.

7



8



1

2 Q. What lives are used by other gas companies in the state of Florida for this  
3 account?

4 A. The table below shows the lives I found for other Florida gas utilities for this  
5 account.

6

**Approved Lives Other Florida Utilities – Account 382**

Company	Life	Curve
Peoples Gas	27	R4
Florida Public Utilities	35	S2
Chesapeake Utilities Central Florida	35	S2
Sebring Gas System	34	

7

8 Q. What is occurring in Account 381 Meters for FCG?

9 A. The proposal for Account 381 is a drop in service life from the approved 25  
10 years to 20 years. My recommendation and OPC's are the same in the

1 Meter account.

2

3 Q. Does Mr. Garrett give any consideration to FCG specific operating  
4 conditions or the information from Company personnel during interviews?

5 A. No. The important information from Company personnel regarding meter  
6 sets and the corrosive conditions support a decline in the life of this  
7 account. Mr. Garrett's proposal does not take into account FCG's  
8 operations and assets, it disregards Company specific information and  
9 experience, and relies only on the mathematical fitting process. Mr.  
10 Garrett's proposal should be denied and my recommend 30 S3 for this  
11 account be approved by this Commission.

12

13 **ACCOUNT 385 INDUSTRIAL M&R EQUIPMENT**

14 Q. What type of equipment is in this account?

15 A. Account 385 includes all measuring and regulating equipment at industrial  
16 stations. The average age of investment in this account at December 31,  
17 2016 is 21.83 years.<sup>22</sup> In my professional experience since much of the  
18 equipment is related to measurement, the forces of retirement are similar to  
19 Account 378 and 379.

20

21 Q. What information did Company personnel provide?

22 A. As discussed in my filed Exhibit DAW-2, page 58, "There is limited  
23 retirement activity in this account, so no actuarial analysis could be  
24 performed. Discussions with Company personnel indicated that there are

---

<sup>22</sup> OPC Discovery Set 1, Response, Folder Averages.

1           only 110 industrial customers, so there are not a lot of transactions.  
2           Company personnel indicated that industrial customers come and go more  
3           often than any other customer group. Company personnel report that the  
4           characteristics of these assets are in line with district regulator stations in  
5           Account 378 noting that they are painted more often, are a little less  
6           exposed to the elements, and that rotary meters are typically tested in the  
7           field. Company personnel believe that assets in this account will have a life  
8           between 20-30 years. For now, they suggest keeping the life the same as  
9           Account 378.”

10

11    Q.    What is the recommended life for Account 378 they suggest as a proxy for  
12           this account?

13    A.    The current recommendation for Account 378 is a 30 R3. Mr. Garrett does  
14           not oppose the life in Account 378 and uses the 30 R3 in OPC’s proposed  
15           rates.<sup>23</sup>

16

17    Q.    What are the different positions that you and Mr. Garrett have for this  
18           account?

19    A.    The current life for this account is a 30 R3. I propose retaining the existing  
20           life, while Mr. Garrett proposes a 37 R2 curve for this account, an increase  
21           of 23.3 percent from the current life of this account established five years  
22           ago.

23

---

<sup>23</sup> Direct Testimony of David J. Garrett, Exhibit DJG-21.



1 Q. What is the basis for Mr. Garrett's proposal for this account?

2 A. Mr. Garrett offers two lives from cases: CenterPoint Energy Texas and  
3 Oklahoma Natural Gas for this account. In terms of customer size alone,  
4 there is no showing that these two companies are a proxy for FCG.  
5 CenterPoint Energy Texas Entex has approximately 1.5 million customers <sup>24</sup>  
6 Oklahoma Natural Gas reports having an average number of customers of  
7 865,548<sup>25</sup> FCG has approximately 108,000 customers<sup>26</sup>, so there are large  
8 differences in total customers much less the number of industrial customers  
9 noted by Company personnel during interviews. The operational  
10 characteristics and demand on assets between these vastly different sized  
11 utilities can create different accounting and operation process dynamics for  
12 each company. No case has been made that they are reasonable proxies  
13 for FCG.

14  
15 Q. What lives are used by other gas companies in the state of Florida for this  
16 account?

17 A. The table below shows the lives I found for other gas utilities for this  
18 account.

19 **Approved Lives Other Florida Utilities – Account 385**

Company	Life	Curve
Peoples Gas	32	R4
Florida Public Utilities	30	R3

<sup>24</sup> <http://www.rrc.state.tx.us/media/38288/table-4a.pdf>

<sup>25</sup> <https://www.oklahomanaturalgas.com/aboutus-aboutus>

<sup>26</sup> Direct Testimony of Dane A. Watson, Exhibit DAW-2, 8.

Chesapeake Utilities Central Florida	30	R3
Sebring Gas System	34	NA

1

2 Q. What lives has the Commission approved in the past for this account?

3 A. The Commission approved a 30 R3, in the past four FCG depreciation  
4 cases, for this account.

5

6 Q. Does Mr. Garrett provide any other information to support his deviation from  
7 the Commission approved 30 R3 on this account?

8 A. No. There was limited retirement activity so no life analysis was performed,  
9 Mr. Garrett does not appear to value information provided by Company  
10 personnel during the interviews, and does not appear to give consideration  
11 to the repeated Commission life approved for this account. My  
12 recommendation is to retain the existing life parameter that has been in  
13 place in four prior proceedings before this Commission. The basis of one  
14 Texas Company and one Oklahoma (especially when ignoring the lives of  
15 Florida utilities) does not constitute proof and should be disregarded. The  
16 Commission previously approved and it is my recommendation to retain the  
17 30 R3 should be adopted and approved for this account.

18

19

**NET SALVAGE**

20 Q. Do you agree with Mr. Garrett's proposed net salvage change to Distribution  
21 Plant Account 380.1 Steel Services?

22 A. No. Mr. Garrett proposes to retain the current net salvage parameter of  
23 negative 80 percent net salvage for this account versus the negative 100

1           percent amount that I propose. I will address the net salvage analysis and  
2           recommended negative 100 percent for this account.

3

4   Q.    What is the basic premise of Mr. Garrett's analysis regarding the net  
5           salvage for the Account 380.1 Steel Mains?

6   A.    Mr. Garrett apparently believes the Company should shift the cost relating to  
7           removing assets from service into the installation costs of new assets.<sup>27</sup> He  
8           ignores the directives outlined in 49 CFR 192.727.<sup>28</sup>

9

10   Q.    What factors are causing removal cost to increase?

11   A.    Many factors are causing an increase in removal cost for distribution plant  
12           including: the time value of money, changes in PHMSA requirements,  
13           requirements of working in urban areas, contract labor costs, and safety  
14           requirements.<sup>29</sup> All these factors are inextricably bound causing an increase  
15           in removal cost for Account 380.1.

16

17   Q.    How has the actual removal cost changed for this account over time?

18   A.    The table below shows the composite negative net salvage experienced in  
19           this account for the Company's depreciation studies filed before this  
20           Commission since 1999. Over this time, the Company has experienced  
21           increasingly negative net salvage (caused by increasing removal cost) while  
22           the approved net salvage rate has not changed.

23

---

<sup>27</sup> Direct Testimony of David J. Garrett, 127:15-17.

<sup>28</sup> Direct Testimony Dane A. Watson, Exhibit DAW-2, 23-24.

<sup>29</sup> Direct Testimony Dane A. Watson, Exhibit DAW-2, 24-25.

1

**Account 380.1 Negative Net Salvage**

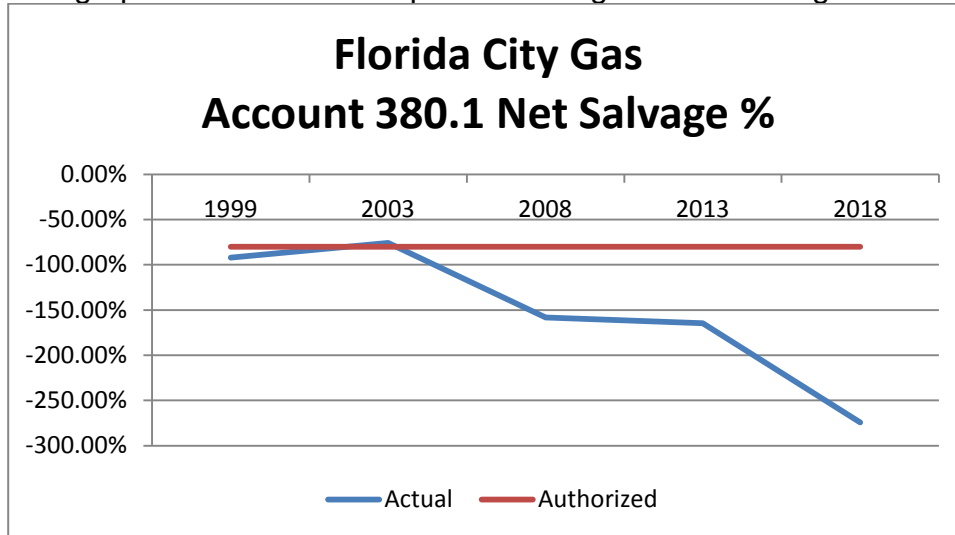
Year of Case	Composite Net Salvage %	Approved Net Salvage %
1999	-92.13%	-80%
2003	-75.71%	-80%
2008	-158.06%	-80%
2013	-164.43%	-80%
2018	-274.34%	-100%*

2

\*Denotes FCG's request.

3

The graph below shows the pattern of negative net salvage for this account.



4

5

Clearly, the level of negative net salvage and increasing removal cost differs

6

from the currently approved levels and a modest increase in negative net

7

salvage is warranted.

8

9

Q. What action does Mr. Garrett recommend for this Commission?

10

A. Mr. Garrett recommends "The Commission should also advise FCG to

11

reevaluate its retirement and replacement process before its next

12

depreciation study for the purpose of examining how the Company might

1 shift a greater percentage of the total costs of removal / replacement toward  
2 installation and away from removal cost.”<sup>30</sup> This recommendation ignores  
3 proper utility accounting as defined by the CFR and attempts to shift the  
4 cost of removal of retired plant into the cost of the new asset being installed.

5

6 Q. Has the Commission recently issued an order for this account for another  
7 gas utility?

8 A. Yes. The Commission issued Order No. PSC-17-0066-AS-GU for Docket  
9 No. 160159-GU, in the settlement agreement for People Gas System, which  
10 the Commission retained the existing net salvage at negative 100 percent  
11 for this account. It is illogical to order Florida City Gas to change its  
12 processes to lower removal cost in Account 380.1 Steel Mains when  
13 another Florida utility is allowed to collect negative 100 percent net salvage  
14 in its depreciation accrual rates. Furthermore, the approval of a negative  
15 100 percent net salvage for another Florida utility signals it is not an  
16 unreasonable recommendation given the specific operating conditions and  
17 requirements that exist in Florida at this time.

18

19 Q. Do you have any final comments on the net salvage for Account 380.1?

20 A. Yes. The Commission should approve my recommended negative 100  
21 percent net salvage as it is the best estimate and reflective of the future  
22 expectations for the account at this time. Furthermore, it represents a  
23 gradual change from the approved net salvage for this account.

24

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<sup>30</sup> Direct Testimony of David J. Garrett, 127:12-15.

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11

**PROPOSED DEPRECIATION RATES**

Q. If Mr. Garrett’s parameters are adopted do you agree with his proposed depreciation rates?

A. No, I do not. We are using the same depreciation system and book level reserves used by the Company for its forecast test year. When I use Mr. Garrett’s proposed parameters, I cannot replicate the remaining life for the accounts where he proposed different life parameters. The table below shows the remaining life computed by Mr. Garret’s software and mine.

**COMPARSON OF PROPOSED REMAINING LIFE**

Account	Garrett Proposed Remaining life <sup>31</sup>	Exhibit DAW-6
<b>376.2 Distribution Mains Plastic</b>	<b>47.5</b>	<b>49.1</b>
379.0 M&R Equipment City Gate	28.2	30.4
380.2 Services – Plastic	43.5	42.8
382.0 Meter Installations	21.8	20.6
385.0 Industrial M&R Equipment	19.8	18.5

12  
13  
14  
15  
16  
17

As can be seen the remaining lives for each account vary between Mr. Garrett’s and mine. I use the software product Power Plan to develop that data, which was used recently in the Florida Gulf Power rate case for electric assets and in numerous jurisdictions across the country.

Q. What is the primary difference in the depreciation rate computations?  
A. The remaining life calculation differences discussed and shown in the above

---

<sup>31</sup> Direct Testimony of David J. Garrett, Exhibit DJG-21

1 table result in different depreciation rates for those accounts where a life  
2 parameter change was proposed. For Account 380.1 Services - Steel,  
3 there is no difference in the calculated remaining life so I can duplicate his  
4 proposed rate. The table below shows the rates as calculated by Mr.  
5 Garrett and the rates I calculate using his proposed parameters.

6

7

**COMPARSON OF PROPOSED ACCRUAL RATE**

Account	Garrett Proposed Rate <sup>32</sup>	Exhibit DAW-6
376.2 Mains Plastic	2.38%	2.3%
379 M&R Equipment City Gate	2.06%	1.9%
380.10 Services Steel	1.53%	1.5%
380.20 Services – Plastic	2.54%	2.6%
382 Meter Installations	3.57%	3.8%
385 Industrial M&R Equipment	1.48%	1.6%

8

9 Exhibit DAW-6 shows the detail, by plant account, for remaining life with  
10 different life proposals. The numbers presented in my Exhibit conform to  
11 the one digit rounding that has become the Commission’s standard level in  
12 prescribing depreciation rates. I cannot replicate Mr. Garrett’s results so I  
13 offer my exhibit for consideration as the Commission deliberates the  
14 appropriate level of depreciation accrual for FCG.

15

**IV. CONCLUSION**

16 Q. Do you have any concluding remarks?  
17

---

<sup>32</sup> Direct Testimony of David J. Garrett, Exhibit DJG-21

1 A. Yes. I conducted a complete depreciation study using standard depreciation  
2 processes and methodologies that resulted in the recommended  
3 parameters and depreciation rates. My recommended life and net salvage  
4 parameters are reasonable and more aligned with other gas utility  
5 companies in the state of Florida, as discussed above and summarized in  
6 my Exhibit DAW-4. The depreciation rates, as provided in my direct  
7 testimony as Exhibit DAW-2, Appendices A and B, should be applied to  
8 Florida City Gas's plant in service. Mr. Garrett is the only intervening party  
9 to oppose my recommendations and resulting depreciation rates. My  
10 depreciation rates, when applied to Florida City Gas's forecast plant in  
11 service balances provide fair and reasonable recovery to both Florida City  
12 Gas and its customers and should be adopted by this Commission.

13

14



**Florida City Gas  
Depreciation Study as of July 31, 2018  
Comparison of FCG, OPC and Other Florida Utilities**

Account	Description	Existing			FCG Proposed			OPC-Garret Proposed			Peoples GAS FL			Florida Public Utilities			Chesapeake Utilites Central Florida			Sebring Gas System				
		Curve	ASL	NS	Curve	ASL	NS	Curve	ASL	NS	Curve	ASL	NS	Curve	ASL	NS	Curve	ASL	NS	Curve	ASL	NS		
376.20	Mains, Plastic	S3	40	-20%	S3	55		59	S3		R3	45		S3	45		S3	45					45	
379.00	M&R Equipment - City Gate	S4	30	0%	S4	35		39	R0.5		R1	31		S4	30		S4	30					32	
380.10	Services, Steel	S6	35	-80%	S6	45	-100%	S6	45	-80%	R0.5	45	-100%	R2	40	-125%	R2	40	-125%				48	-30%
380.20	Services, Plastic	S4	34	-30%	S4	45		54	R2.5		R3	40		R2	45		R2	45					40	
382.00	Meter Installations	S3	34	-25%	S3	30		34	S3		R4	27		S2	35		S2	35					34	
385.00	Industrial M&R Equipment	R3	30	0%	R3	30		37	R2		R4	32		R3	30		R3	30					34	
													<b>Combined with Chesapeake in 2013 study</b>			<b>Combined with Chesapeake in 2013 study</b>								

STATE OF ILLINOIS           §  
                                          §  
COUNTY OF DuPAGE       §

**BEFORE ME**, the undersigned authority, on this day personally appeared William I Adams, who, having been placed under oath by me, did depose as follows:

1. My name is William I. Adams. I am of legal age and a resident of the State of Illinois;
  
2. I am employed by Performance Pipe, a Division of Chevron Phillips Chemical Company, LP ("Performance Pipe") where I hold the position of Special Projects Manager. (Prior to July 1, 2000, I was an employee of Plexco, a Division of Chevron Chemical Company, a unit of Chevron Corporation ("Plexco"). On July 1, 2000, Chevron Chemical Company and Phillips Chemical Company were merged into Chevron Phillips Chemical Company, a new joint venture company. As of July 1, 2000, Plexco has been merged into Performance Pipe, and no longer exists as a separate company or a unit of Chevron Corporation.);
  
3. Performance Pipe is a manufacturer of polyethylene materials marketed under the PLEXCO trade name and has been manufacturing polyethylene gas pipe since 1969;
  
4. As part of my employment responsibilities, I am familiar with product material releases including the product release referenced as Exhibit JP-4,

Page 1 of 4 in GUD 9145. I am also familiar with the testing procedures

Performance Pipe uses to market gas pipe;

5. The graphical analysis presented in PLEXCO 3408 EHMW material releases are the results of regression analysis on laboratory test results. These laboratory tests are performed under controlled conditions of temperature and pressure in accordance with ASTM and other relevant industry standards;
6. Such laboratory tests focus solely on modeling that estimates when plastic pipe may fail based on internal pressure stress alone. Such testing does not model nor address changes in stress levels that will occur in pipe due to temperature changes, nor variability in internal pressure, nor actual operating conditions. Such testing also does not model pipe stress failure that may be related to soil conditions, installation procedures, or third party intervention. In the ground, polyethylene gas pipe is subjected to the actual stresses of the application as well as system operating pressures, maintenance procedures, street widenings, soil conditions, growth, and forces of nature;
7. Performance Pipe does not make average life expectancy projections based on laboratory testing for polyethylene gas pipe.

The foregoing statements offered by me are true and correct, and the opinions  
stated herein are accurate, true and correct.

William I Adams  
William I Adams  
Special Projects Manager

**SUBSCRIBED AND SWORN TO BEFORE ME** by the said William I Adams

this 27th day of July 2000.

Shirley Ann Rice  
Notary Public, State of Illinois

State of Illinois county of Will  
Signed before me on this 27th day  
of July, 2000 by \_\_\_\_\_  
Notary Public Shirley Ann Rice



Florida Public Service Commission  
Docket No. 20170179-GU  
FLORIDA CITY GAS  
Witness: Dane A. Watson  
Exhibit No. DAW-6  
Page 1 of 3  
Appendix A-1

**SOUTHERN GAS COMPANY - FLORIDA CITY GAS**  
**COMPUTATION OF DEPRECIATION ACCRUAL RATES AT JULY 31, 2018 USING OPC GARRETT PARAMETERS**

Account Description	Plant In Service 7/31/2018	Book Depreciation 7/31/2018	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Annual Accrual Amount	Annual Accrual Rate
<b>STORAGE PLANT</b>								
364.00 LNG Plant	-	-	0%	\$ -	\$ -	50.0	-	2.0%
<b>DISTRIBUTION PLANT</b>								
375.00 Structures & Improvements	-	(80,098.95)	0%	-	80,098.95	0.0	-	3.1%
376.10 Mains, Steel	109,201,912.12	70,680,741.03	-50%	(54,600,956.06)	93,122,127.15	34.0	2,735,504.23	2.5%
376.20 Mains, Plastic	150,016,422.85	40,242,439.76	-40%	(60,006,569.14)	169,780,552.23	49.1	3,456,821.42	2.3%
378.00 M&R Station Equipment - General	3,009,723.14	146,541.44	-5%	(150,486.16)	3,013,667.86	28.3	106,490.79	3.5%
379.00 M&R Station Equipment - City Gate	10,001,910.51	4,685,119.61	-5%	(500,095.53)	5,816,886.43	30.4	191,384.49	1.9%
380.10 Services, Steel	14,597,871.55	22,559,287.11	-80%	(11,678,297.24)	3,716,881.68	16.7	222,927.34	1.5%
380.20 Services, Plastic	61,702,824.15	21,210,271.14	-45%	(27,766,270.87)	68,258,823.88	42.8	1,595,702.81	2.6%
381.00 Meters	19,544,112.17	3,486,512.61	-5%	(977,205.61)	17,034,805.17	14.4	1,186,874.35	6.1%
382.00 Meter Installations	7,163,196.41	3,023,561.07	-20%	(1,432,639.28)	5,572,274.62	20.6	270,781.65	3.8%
382.10 Meter Install - ERTs	4,694,672.47	2,821,080.02	0%	-	1,873,592.45	13.0	144,267.46	3.1%
383.00 House Regulators	5,883,812.60	2,643,920.86	-5%	(294,190.63)	3,534,082.37	19.8	178,744.32	3.0%
384.00 House Regulator Installations	2,308,976.45	1,151,144.71	0%	-	1,157,831.74	15.8	73,378.98	3.2%
385.00 Industrial M&R Station Equipment	3,045,477.79	2,149,454.97	0%	-	896,022.82	18.5	48,528.45	1.6%
387.00 Other Equipment	836,930.34	332,634.71	0%	-	504,295.63	20.0	25,208.76	3.0%
<b>Total Distribution</b>	<b>392,007,842.55</b>	<b>175,052,610.09</b>		<b>(157,406,710.51)</b>	<b>374,361,942.97</b>		<b>10,236,615.06</b>	<b>2.6%</b>
<b>GENERAL PLANT</b>								
390.00 Structures & Improvements	8,410,477.58	578,148.47	0%	-	7,832,329.11	37.5	208,813.51	2.5%
392.00 Transportation Equipment	1,224,132.85	18,870.45	12%	146,895.94	1,058,366.46	10.3	102,382.57	8.4%
392.10 Trans Equip - Autos & Lt Trucks	128,094.98	149,006.82	12%	15,371.40	(36,283.24)	7.2	-	11.0%
392.20 Trans Equip - Service Trucks	3,231,811.69	629,929.61	12%	387,817.40	2,214,064.68	5.7	390,503.86	12.1%
392.30 Trans Equip - Heavy Trucks	374,203.71	204,896.63	12%	44,904.45	124,402.63	6.8	18,406.23	4.9%
394.10 Natural Gas Vehicle Equipment	3,661,962.71	401,397.66	0%	-	3,260,565.05	18.8	173,511.22	4.7%
396.00 Power Operated Equipment	210,084.00	48,343.57	10%	21,008.40	140,732.03	10.3	13,625.06	6.5%
<b>Total General</b>	<b>17,240,767.52</b>	<b>2,030,593.21</b>		<b>615,997.59</b>	<b>14,594,176.72</b>		<b>907,242.45</b>	<b>5.3%</b>
<b>TOTAL DEPRECIABLE PLANT</b>	<b>409,248,610.07</b>	<b>177,083,203.30</b>		<b>(156,790,712.92)</b>	<b>388,956,119.69</b>		<b>11,143,857.51</b>	<b>2.7%</b>
<b>Amortized Plant</b>	<b>16,103,869.93</b>	<b>3,555,259.11</b>					<b>1,414,286.87</b>	
<b>Amortization Reserve True Up</b>							<b>284,453.60</b>	
<b>Total Depreciated and Amortized Plant</b>	<b>\$ 425,352,480.00</b>	<b>\$ 180,638,462.41</b>		<b>\$ (156,790,712.92)</b>	<b>\$ 388,956,119.69</b>		<b>\$ 12,842,597.98</b>	<b>3.0%</b>
Forecast GL	429,415,069.13	181,413,353.22						
Difference	(4,062,589.13)	(774,890.81)						
Intangibles	320,367.50	173,600.96						
Transmission	0.68	(0.15)						
Land DP	743,305.84	12,198.65						
Land GP	2,410,431.74	607.93						
AR 15 Retirements	588,483.37	588,483.37						
Total Reconciling Items	4,062,589.13	774,890.76						
Reconciled Differences	(0.00)	(0.05)						

\* Fully accrued. When a depreciable base exists, the proposed rate should be 11%

Florida Public Service Commission  
Docket No. 20170179-GU  
FLORIDA CITY GAS  
Witness: Dane A. Watson  
Exhibit No. DAW-6  
Page 2 of 3  
Appendix A-2

**SOUTHERN GAS COMPANY - FLORIDA CITY GAS  
COMPUTATION OF DEPRECIATION ACCRUALS AND RATE - GENERAL PLANT AMORTIZED ACCOUNTS  
FORECAST AT JULY 31, 2018**

<b>GENERAL PLANT - AMORTIZED</b>		<b>Plant</b>	<b>Book</b>	<b>Theoretical</b>	<b>Reserve</b>	<b>Reserve</b>	<b>Amortize</b>	<b>Assets to Retire</b>
<b>Account</b>	<b>Description</b>	<b>Balance</b>	<b>Reserve</b>	<b>Reserve</b>	<b>Reserve</b>	<b>Recovery</b>	<b>Reserve</b>	<b>Greater Than</b>
		<b>7/31/2018</b>	<b>7/31/2018</b>	<b>7/31/2018</b>	<b>(Deficit)/Surplus</b>	<b>Period (Yrs)</b>	<b>Deficit/(Surplus)</b>	<b>ASL</b>
391.00	Office Furniture	635,483.69	132,036.29	54,722.21	77,314.08	5	(15,462.82)	-
391.10	Software Non-Enterprise	656,313.79	136,049.74	518,839.66	(382,789.92)	5	76,557.98	441,095.35
391.11	Computer Software	12,908,974.23	3,681,459.04	4,058,339.15	(376,880.11)	5	75,376.02	-
391.12	Computer Hardware	660,986.99	129,437.68	499,950.05	(370,512.37)	5	74,102.47	-
391.50	Individual Equipment	329,067.80	207,543.62	194,321.96	13,221.66	5	(2,644.33)	147,388.02
393.00	Stores Equipment	-	(1,301.47)	-	(1,301.47)	5	260.29	-
394.00	Tools, Shop, & Garage Equipment	644,251.65	(43,717.26)	138,141.57	(181,858.83)	5	36,371.77	-
395.00	Laboratory Equipment	-	(0.03)	-	(0.03)	5	-	-
397.00	Communication Equipment	609,131.06	125,650.38	55,235.43	70,414.95	5	(14,082.99)	-
398.00	Miscellaneous Equipment	248,144.09	(223,415.51)	46,460.48	(269,875.99)	5	53,975.20	-
Total General Amortized		<u>16,692,353.30</u>	<u>4,143,742.48</u>	<u>5,566,010.51</u>	<u>(1,422,268.03)</u>		<u>284,453.60</u>	<u>588,483.37</u>

**After Retirements of Assets With Age > Average Service Life**

<b>Account</b>	<b>Description</b>	<b>Plant</b>	<b>Book</b>	<b>Proposed</b>	<b>Annual</b>	<b>Annual</b>
		<b>Balance</b>	<b>Reserve</b>	<b>Life</b>	<b>Amortization</b>	<b>Amortization</b>
		<b>7/31/2018</b>	<b>7/31/2018</b>			<b>%</b>
391.00	Office Furniture	635,483.69	132,036.29	15	42,365.58	6.7%
391.10	Software Non-Enterprise	215,218.44	(305,045.61)	10	21,521.84	10.0%
391.11	Computer Software	12,908,974.23	3,681,459.04	12	1,075,747.85	8.3%
391.12	Computer Hardware	660,986.99	129,437.68	5	132,197.40	20.0%
391.50	Individual Equipment	181,679.78	60,155.60	5	36,335.96	20.0%
393.00	Stores Equipment	-	(1,301.47)	25	-	4.0%
394.00	Tools, Shop, and Garage Equipment	644,251.65	(43,717.26)	15	42,950.11	6.7%
395.00	Laboratory Equipment	-	(0.03)	20	-	5.0%
397.00	Communication Equipment	609,131.06	125,650.38	12	50,760.92	8.3%
398.00	Miscellaneous Equipment	248,144.09	(223,415.51)	20	12,407.20	5.0%
Total General Amortized After Ret		<u>16,103,869.93</u>	<u>3,555,259.11</u>		<u>1,414,286.87</u>	
Assets to Retire		588,483.37	588,483.37			

**SOUTHERN GAS COMPANY - FLORIDA CITY GAS  
COMPARISON OF DEPRECIATION ACCRUAL RATES USING OPC GARRETT PARAMETERS  
DEPRECIATION STUDY AT JULY 31, 2018**

Account	Description	Plant	Existing Accrual		OPC Garrett Proposed Accrual		Difference
		In Service 7/31/2018	Rate	Amount	Rate	Amount	
<b>STORAGE PLANT</b>							
364.00	LNG Plant	-	New	0.00	2.0%	-	-
<b>DISTRIBUTION PLANT</b>							
375.00	Structures & Improvements	-	2.8%	-	3.1%	-	-
376.10	Mains, Steel	109,201,912.12	3.0%	3,276,057.36	2.5%	2,730,047.80	(546,009.56)
376.20	Mains, Plastic	150,016,422.85	3.1%	4,650,509.11	2.3%	3,450,377.73	(1,200,131.38)
378.00	M&R Station Equipment - General	3,009,723.14	3.3%	99,320.86	3.5%	105,340.31	6,019.45
379.00	M&R Station Equipment - City Gate	10,001,910.51	3.3%	330,063.05	1.9%	190,036.30	(140,026.75)
380.10	Services, Steel	14,597,871.55	6.5%	948,861.65	1.5%	218,968.07	(729,893.58)
380.20	Services, Plastic	61,702,824.15	4.1%	2,529,815.79	2.6%	1,604,273.43	(925,542.36)
381.00	Meters	17,980,577.91	4.9%	881,048.32	6.1%	1,096,815.25	215,766.93
381.10	Meters - ERTs	1,563,534.26	4.9%	76,613.18	6.1%	95,375.59	18,762.41
382.00	Meter Installations	7,163,196.41	4.5%	322,343.84	3.8%	272,201.46	(50,142.37)
382.10	Meter Install - ERTs	4,694,672.47	6.7%	314,543.06	3.1%	145,534.85	(169,008.21)
383.00	House Regulators	5,883,812.60	4.9%	288,306.82	3.0%	176,514.38	(111,792.44)
384.00	House Regulator Installations	2,308,976.45	3.1%	71,578.27	3.2%	73,887.25	2,308.98
385.00	Industrial M&R Station Equipment	3,045,477.79	3.3%	100,500.77	1.6%	48,727.64	(51,773.12)
387.00	Other Equipment	836,930.34	3.3%	27,618.70	3.0%	25,107.91	(2,510.79)
	<b>Total Distribution</b>	<b>392,007,842.55</b>	<b>3.6%</b>	<b>13,917,180.77</b>	<b>2.6%</b>	<b>10,233,207.97</b>	<b>(3,683,972.80)</b>
<b>GENERAL PLANT</b>							
390.00	Structures & Improvements	8,410,477.58	2.6%	218,672.42	2.5%	210,261.94	(8,410.48)
391.00	Office Furniture	635,483.69	7.7%	48,932.24	6.7%	42,577.41	(6,354.84)
391.10	Software Non-Enterprise	215,218.44 *	8.3%	17,863.13	10.0%	21,521.84	3,658.71
391.11	Computer Software	12,908,974.23	9.1%	1,174,716.65	8.3%	1,071,444.86	(103,271.79)
391.12	Computer Hardware	660,986.99	8.3%	54,861.92	20.0%	132,197.40	77,335.48
391.50	Individual Equipment	181,679.78 *	8.3%	15,079.42	20.0%	36,335.96	21,256.53
392.00	Transportation Equipment	1,224,132.85	11.5%	140,775.28	8.4%	102,827.16	(37,948.12)
392.10	Trans Equip - Autos & Lt Trucks	128,094.98 **	11.5%	-	11.0%	-	-
392.20	Trans Equip - Service Trucks	3,231,811.69	11.5%	371,658.34	12.1%	391,049.21	19,390.87
392.30	Trans Equip - Heavy Trucks	374,203.71	11.5%	43,033.43	4.9%	18,335.98	(24,697.44)
393.00	Stores Equipment	-	6.2%	-	4.0%	-	-
394.00	Tools, Shop, & Garage Equipment	644,251.65	7.2%	46,386.12	6.7%	43,164.86	(3,221.26)
394.10	Natural Gas Vehicle Equipment	3,661,962.71	5.0%	183,098.14	4.7%	172,112.25	(10,985.89)
395.00	Laboratory Equipment	-	4.0%	-	5.0%	-	-
396.00	Power Operated Equipment	210,084.00	8.3%	17,436.97	6.5%	13,655.46	(3,781.51)
397.00	Communication Equipment	609,131.06	8.3%	50,557.88	8.3%	50,557.88	-
398.00	Miscellaneous Equipment	248,144.09	7.5%	18,610.81	5.0%	12,407.20	(6,203.60)
	<b>General Plant Amortization True Up</b>					284,453.60	284,453.60
	<b>Total General</b>	<b>33,344,637.45</b>	<b>7.2%</b>	<b>2,401,682.75</b>	<b>7.8%</b>	<b>2,602,903.01</b>	<b>201,220.26</b>
	<b>TOTAL DEPRECIATED PLANT</b>	<b>\$ 425,352,480.00</b>	<b>3.8%</b>	<b>\$ 16,318,863.52</b>	<b>3.0%</b>	<b>\$ 12,836,110.98</b>	<b>\$ (3,482,752.54)</b>

\*Note - After AR15 retirements of assets > ASL 588,483.37

**Highlighted Total**

**(3,097,509.57)**

\*\* When a depreciation base exists in Account 392.1 the rate should be