Jessica A. Cano
Senior Attorney
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
(561) 304-5226
(561) 691-7135 (Facsimile)

August 29, 2016

VIA HAND DELIVERY

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

Re: Docket Nos. 160021-EI, 160061-EI, 160062-EI and 160088-EI

Dear Ms. Stauffer:

Enclosed for filing on behalf of Florida Power & Light Company ("FPL") are the revised rebuttal testimony and revised rebuttal exhibit NWA-3 of Ned W. Allis. There are no changes to rebuttal exhibits NWA-4 or NWA-5.

If you should have any questions about this filing, please do not hesitate to contact me.

Sincerely,

s/ Jessica A. Cano

Jessica A. Cano
Fla. Bar No. 0037372

Enclosures
cc: Counsel for Parties of Record (w/ enc.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF NED W. ALLIS

DOCKET NOS. 160021-EI; 160062-EI

AUGUST 1, 2016

REVISED

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Ned W. Allis. My business address is 207 Senate Ave., Camp Hill, PA 17011.

Q. Did you previously submit testimony in the proceeding?

A. Yes.

Q. Are you sponsoring or co-sponsoring any exhibits as part of your rebuttal testimony?

A. Yes. I am sponsoring the following exhibit:

- NWA-3 – Mass Property Service Lives – Account Specific

I am also co-sponsoring Exhibit KO-19, specifically the supplemental schedules included as Attachment 2 to FPL's Second Notice of Identified Adjustments.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to respond to the testimonies of Federal Executive Agencies ("FEA") witness Brian Andrews and South Florida Hospitals and Healthcare Association ("SFHHA") witness Lane Kollen. Specifically, I will respond to the portions of their testimony related to depreciation.

Q. Please summarize your rebuttal testimony.

A. My testimony demonstrates that the adjustments proposed for FPL's 2016 Depreciation Study by witnesses Andrews and Kollen are unfounded and

inappropriate. The 2016 Depreciation Study, using either the original 2017 year-end plant and reserve balances or the 2016 year-end plant and reserve balances reflected in FPL's Second Notice of Identified Adjustments, appropriately represents the depreciation rates that should be applied to FPL's plant in service. The depreciation rates proposed in the 2016 Depreciation Study are based on widely accepted depreciation methods, incorporate FPL's actual experience and outlook, and properly balance the interests of current and future generations of customers. In contrast, the proposals by the intervenor witnesses do not meet these standards. Among the most prominent issues that I will explain and address in my rebuttal testimony are:

- Contrary to the implications of intervenor witnesses, the service life and net salvage recommendations in the 2016 Depreciation Study actually result in a significant decrease in depreciation expense of $563 million, when compared to the depreciation rates resulting from the service life and net salvage estimates that were approved in 2009.
- The 2016 Depreciation Study incorporates FPL-specific data and plans in support of the recommended service lives and net salvage. In contrast, the recommendations of intervenor witnesses are not consistent with FPL's actual experience. As an example, witness Kollen ignores over $2 billion in historical retirement activity related to the Company's combined cycle power plants.
- SFHHA's proposal to reject the 2016 Depreciation Study in its entirety and instead retain the existing depreciation rates is inappropriate and ill-

advised. The 2016 Depreciation Study provides clear evidence that, independent of the calculation date used for the study, FPL's service life and net salvage parameters must be updated to incorporate current information. The study also demonstrates that updated plant and reserve balances must be used to calculate updated depreciation rates. Further, the basis for SFHHA's objection – FPL's use of December 31, 2017 balances for the 2016 Depreciation Study – has already been addressed with the depreciation rates provided in FPL's Second Notice of Identified Adjustment filed on June 16, 2016, which provides depreciation rates as of December 31, 2016. SFHHA's proposal to rely on the 2009 depreciation study would hurt current customers. As noted above, the recommended service life and net salvage parameters in the 2016 Depreciation Study reduce depreciation expense by $563 million. Applying depreciation rates resulting from applying the service life and net salvage estimates approved in 2009 to current balances would increase depreciation expense by much more than the depreciation rates resulting from the 2016 Deprecation Study.

II. RESULTS OF THE 2016 DEPRECIATION STUDY

Q. Have the recommended service lives and net salvage estimates in the 2016 Depreciation Study resulted in an increase in depreciation expense?

A. No. Instead, in the 2016 Depreciation Study I have made a number of recommendations that result in significant decreases in depreciation expense. These include the following:

- I have increased the life span for combined cycle plants from 30 to 40 years, resulting in a decrease in depreciation expense of $114.2 million
- I have changed the net salvage estimate for capital spare parts from 0% to 35%, resulting in a decrease in depreciation expense of $155.8 million.
- I have increased the average service life for capital spare parts from approximately 3.2 years to 9 years, resulting in a decrease in depreciation expense of $291.4 million.
- I have increased the service lives for twenty-one transmission, distribution and general plant accounts. These changes have been somewhat offset by a clear trend in FPL's data to more negative net salvage estimates. The total impact of my transmission, distribution and general plant recommendations is to decrease depreciation by a further $26.7 million.

In total, my recommended changes to service life and net salvage estimates result in a combined decrease in depreciation expense of approximately $563 million when compared to the depreciation rates that would result from the current, Commission-approved service life and net salvage parameters.

Q. You indicated that the increase in depreciation rates is primarily due to the change in plant and reserve balances, not the recommended service lives and net salvage estimates in the 2016 Depreciation Study. Please explain this concept further.

A. Depreciation rates for a given depreciable group can change for a number of reasons. One broad category of reasons for a change in depreciation expense is the estimates made in a depreciation study -- changes to average service lives, survivor curves, estimated retirement dates or net salvage. Changes to these estimates will result in a change in depreciation rates, all else equal. I will refer to the impact of depreciation expense due to these reasons as "changes in lives and net salvage."

However, depreciation rates will also change from study to study even if there are no changes in lives and net salvage. This occurs because plant balances, accumulated depreciation balances, and remaining life spans change from study to study. As a result, if depreciation is calculated at a different point in time, depreciation rates will automatically change with updated plant and accumulated depreciation balances. I will refer to the impact of these factors on depreciation rates to this as the "change in calculation time period."

For the 2016 Depreciation Study, the increase in depreciation expense is due primarily to the change in calculation time period, not the changes in lives and net salvage. In fact, viewed in isolation, the changes in lives and net salvage

recommended in the 2016 Depreciation Study result in a significant *reduction* in depreciation expense.

Q. Can you quantify the impact on depreciation rates of the change in calculation time period, as compared to the changes in lives and net salvage?

A. Yes. In Docket No. 090130-EI, the Commission approved specific survivor curves, interim retirement rates, life spans and net salvage estimates. Using these parameters, I have calculated the depreciation rates and expense that result if the same approved parameters are applied to the December 31, 2016 balances used for the 2016 Depreciation Study (as updated in FPL's Second Notice of Identified Adjustments provided in Exhibit KO-19).

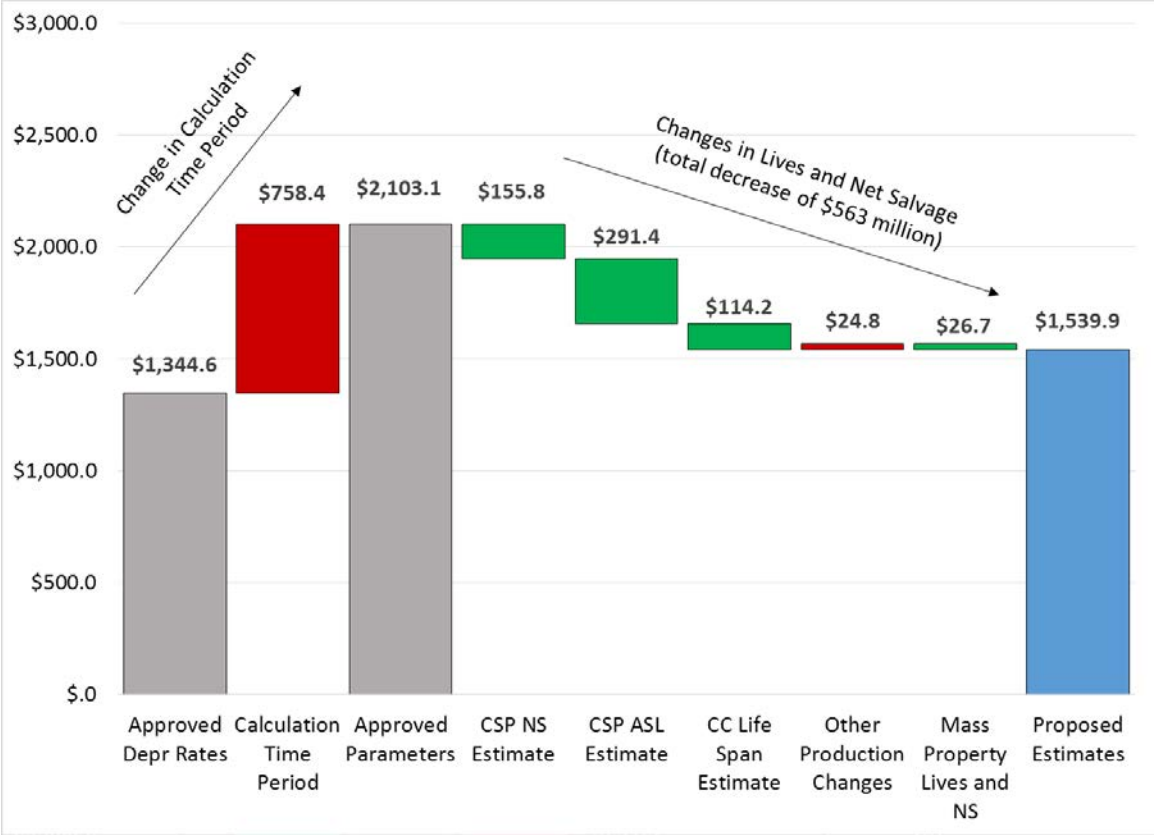
Q. What is the result of this calculation?

A. The result of this calculation is annual depreciation expense as of December 31, 2016 of $2,103.1 million. This is an increase of approximately $758.4 million over the $1,344.6 million in depreciation expense that would result from simply applying the approved depreciation rates (unadjusted for the change in calculation time period) to the December 31, 2016 plant and reserve balances. That is, the result of the "change in calculation time period" is an increase in depreciation expense of approximately $758.4 million.

In Figure 1 below, I have shown the impact of the "change in calculation time period" on depreciation expense for 2016 balances. I have also shown the impact of the "changes in life and net salvage" resulting from my depreciation

study: a reduction of $563 million. To help further illustrate the impact of specific life or net salvage estimates, I have also quantified the impact of certain changes to service lives and net salvage estimates.

Figure 1: Impact on Depreciation Expense of Change in Calculation Time Period and Changes in Life and Net Salvage



Q. What is the primary reason for the increase that occurs due to the change in calculation time period?

A. The increase is due primarily to additions to production plant accounts, which I have explained in more detail in my direct testimony.[1] For example, nuclear production plant represents $150 million of the $758 million increase due to the

[1] See pages 48 and 49 of my direct testimony for an explanation of how additions to life span property typically results in an increase in depreciation rates.

change in calculation time period. While nuclear plants have an overall 60-year life span, new assets added at the Company's nuclear facilities will have a shorter life than 60 years. As a result, for these accounts and other life span accounts, the depreciation rate tends to increase as new assets are added – otherwise the full cost of these plants would not be recovered.

Q. Given the large increase that occurs automatically from simply recalculating depreciation rates with current balances, what is the actual impact of the service life and net salvage estimates you have recommended in the depreciation study?

A. As noted above, and as can be seen in Figure 1, the actual impact of the changes in estimates proposed in the 2016 Depreciation Study – that is, the changes that actually result from my recommendations as opposed to changes that would occur anyway due to the change in calculation time period – is a significant decrease in depreciation expense of $563 million. It is incorrect and completely misleading to characterize this significant decrease in depreciation expense as an "aggressive" depreciation proposal.

III. LIFE SPANS

Q. What is "life span" property?

A. Life span property is a depreciation term used to refer to facilities such as power plants for which all components of the assets at the site will be retired concurrently. For example, when a power plant reaches the end of its useful

life all assets at the facility will be retired at the same time. This may include structures that were originally constructed with the facility as well as assets such as pumps or motors that may be relatively new.

The retirement of the entire facility is referred to as a "terminal retirement" or a "final retirement." Additionally, in order to operate the facility, many assets will need to be replaced throughout the life of the plant. Retirements such as these that occur prior to the final retirement are referred to as "interim retirements."

Q. How is depreciation determined for life span property?

A. In order to properly determine depreciation rates and expense for life span property, one must make estimates of both final retirements and interim retirements. This is referred to as the "life span method." Final retirements are typically estimated for each production plant or generating unit by determining the most likely date at which the facility will retire. This date is referred to as an "economic recovery date," a "final retirement date" or a "probable retirement date." A related concept is the "life span" of the facility, which is the period of time from the original installation of the facility to the final retirement date of the facility. Thus, if a power plant is constructed in 1990 and retires in 2030, it will have a 40-year life span.

It should be noted that the life span of a facility is different from the average service life of the facility. The average service life of the facility is normally

shorter than the life span, for two reasons. One is that any additions that occur subsequent to the original installation of the facility will have a shorter life than the original additions. For example, for a facility with a final retirement date of 2030, assets installed in 2010 will have a shorter life than those installed in 1990. The second reason is there will typically be interim retirements that occur throughout the life of the facility. These interim retirements are most commonly and most accurately estimated using survivor curves, similar to the approach for mass property.

Once estimates of both final retirement dates and interim retirements are determined (as well as net salvage for each type of retirements), these estimates are combined to develop overall depreciation rates. For FPL, these depreciation rates have been determined for each account for each production plant unit.

Q. Do all parties agree with the use of the life span method?

A. Yes. While SFHHA proposes changes to some of the estimates made in the 2016 Depreciation Study, witness Kollen has used the life span method. FEA has not proposed any changes to the estimates in the study for life span accounts.

Q. What changes have been proposed by SFHHA?

A. Witness Kollen has recommended different life span estimates for certain facilities. He has also recommended a different estimate for interim retirements of capital spare parts.

In this section, I will discuss the proposed changes to life span estimates made by SFHHA and explain why each is inappropriate. In Section IV, I will explain why witness Kollen's interim retirement estimates are inappropriate, which is in no small part due to the fact that he has elected to ignore over two billion dollars of retirements from FPL's actual historical experience.

Q. Has FPL retired any of its power plants in recent years?

A. Yes. As I discuss in my direct testimony, FPL has retired a number of power plants. These include steam-fired power plants as well as the two units at the Putnam combined cycle plant.

Q. What are some of the lessons learned from FPL's experience with these plants?

A. In addition to providing evidence of the life spans FPL's plants have actually experienced, the retirements of these plants illustrate one of the primary causes of the final retirement of power plants. Specifically, a power plant is often retired as the result of an economic decision. As a plant ages and becomes more expensive to operate, and as new technologies become more efficient and economical relative to existing generation, it eventually becomes economical to replace the existing plant. The retired plant may be able to physically operate for a longer period of time, but it would be more costly option to keep the plant in service.

Thus, the process of estimating the life spans of the Company's power plants is not to determine how long a plant could physically last, but instead

estimating when the economic decision will be to replace the plant with newer generation. Fortunately, for FPL the Company has experience replacing its facilities in recent years that provides evidence as to the overall economic life spans of the Company's facilities.

Q. What are the specific changes to life span estimates that SFHHA has proposed?

A. For coal-fired facilities, SFHHA has proposed a 63-year life span for Scherer and a 65-year life span for the St. Johns River Power Park ("SJRPP").

Q. Has any party's witnesses challenged the life span estimates for any other of FPL's power plants?

A. No. No party has provided testimony challenging the life span estimates for any of FPL's other production plant facilities.

Q. What are the current, Commission approved life spans for FPL's coal-fired facilities?

A. The currently approved life span estimate for coal-fired generation is 50 years. SFHHA has proposed to increase this life span by 13 years for Scherer and 15 years for SJRPP.

Q. How do your estimates for these types of plants compare to the currently approved estimates?

A. For coal-fired production facilities, I have proposed to continue to use the 50-year life span previously approved by the Commission. Given the industry-wide outlook for coal, it is reasonable to continue to use the previously approved estimate. Witness Kollen's proposal to significantly increase the

life span by 15 years is particularly inexplicable given the fact that the outlook for coal-fired generation is worse today than it was in 2009 when the Commission approved a 50-year life span for these facilities.

Because SFHHA's witness Kollen's proposal is related to both depreciation and dismantlement, and because many of his comments related to FPL's operating agreements with the co-owners of Scherer and SJRPP, FPL witness Ferguson will address SFHHA's proposal for the life spans of coal-fired generation in more detail in his rebuttal testimony.

IV. INTERIM RETIREMENTS AND CAPITAL SPARE PARTS

Q. What are the issues related to interim retirements in this case?

A. The primary issue relates to capital spare parts. Witness Kollen has made recommendations that in effect ignore the extensive historical activity related to capital spare parts. Specifically, the Company has made over $2 billion in interim retirements for capital spare parts and has made approximately $1.3 billion in retirements for these assets in the last 7 years alone. Further, an understanding of the types of assets included in the proposed capital spare parts subaccount makes clear that the Company will continue to experience high levels of retirements of these types of assets. Witness Kollen has proposed to use estimates of interim retirements based on a completely

different set of assets and has therefore ignored the data related to capital spare parts. This produces unreasonable results.

Q. Has SFHHA proposed estimates of interim retirements based on current, FPL account-specific data?

A. No. I would like to make clear that FPL is the only party in this case that has recommended estimates of interim retirements based on a study of currently available data for all accounts. Estimates in FPL's 2016 Depreciation Study are based on the analysis of historical data through the most recent year available (i.e., 2014) for all accounts. Witness Kollen has inappropriately used the estimate from an entirely different group of assets and applied them to capital spare parts. He therefore does not incorporate any data related to FPL's capital spare parts.

Q. How will you address the issues related to interim retirements?

A. There are multiple issues with SFHHA's proposals as they relate to interim retirements. I will first briefly address the method of estimating interim retirements, and point out that no one has filed testimony challenging the general method for interim retirements used in the 2016 Depreciation Study. I will then specifically discuss capital spare parts, as the recommendations of SFHHA are particularly inappropriate for these assets. I then discuss the impact of interim retirement estimates on the net salvage for production plant. Witness Kollen has not adjusted the overall composite net salvage estimates for production plants to account for his change in the interim retirement estimate for capital spare parts. The result is that he has erroneously

understated depreciation expense. Finally, I will address two other issues related to interim retirements – the allocation of accumulated depreciation for the new subaccount for capital spare parts and the appropriateness and necessity of including estimates of interim retirements for the Okeechobee combined cycle plant.

A. INTERIM RETIREMENT METHOD

Q. Please explain the method you have used to estimate interim retirements.

A. To estimate interim retirements, I have used survivor curves based in part on the statistical analysis of historical interim retirements. These are referred to as interim survivor curves. The use of interim survivor curves is a widely accepted method to estimate interim retirements for life span property. It is also considered to be the most accurate approach.

Q. Has any party providing testimony that challenges the general method of using interim survivor curves to estimate interim retirements?

A. No. No party has provided testimony challenging the method I have used for estimating interim retirements.

B. INTERIM RETIREMENTS FOR CAPITAL SPARE PARTS

Q. What is a "capital spare part" for the Company's combined cycle fleet of power plants?

A. As I explain on page 34 of my direct testimony, the term "capital spare part" is used to describe types of assets associated with the combustion turbines of

combined cycle plants that typically have a shorter life than the overall facility. Capital spare parts include assets such as turbine blades, rotor blades and transition nozzles that are removed from the plant and either refurbished or retired at regular intervals.

Q. Please explain further the life cycle of these types of assets.

A. Combined cycle plants are highly efficient machines that require regular maintenance and capital expenditures in order to operate reliably and efficiently. The manufacturers of these types of plants recommend regular outage intervals at which the plants are serviced. During these outages, many assets are replaced. At the time of replacement, FPL retires the asset and records salvage that is associated with either refurbishing or scrapping the asset.

Q. How often do these outage intervals occur?

A. The outage intervals for combined cycle plants are specified to occur based on the number of operating hours and the number of starts for the plant (i.e., the number of times the plant is turned off and turned back on). For example, in Docket No. 160088-EI, FPL witness Kennedy has provided the combustion turbine outage schedules for FPL plants using Mitsubishi technology. As can be seen in Exhibit RRK-1 of witness Kennedy's rebuttal testimony in Docket No. 160088-EI, inspections and outages are typically scheduled to occur at the following intervals:

- 12,000 hours – combustor inspection
- 24,000 hours – turbine inspection

- 48,000 hours – major inspection

Similarly, other equipment manufacturers, along with FPL equipment fleet teams, have service hour based recommendations. At each of these intervals, various capital spare parts are inspected and replaced as needed, and many replacements of components typically occur for the turbine inspection and major inspection. Because a typical combined cycle plant operates for around 8,000 hours per year, it is therefore normal and to be expected that there will be the retirements of many capital spare parts after about 3 years and more retirements after about 6 years (i.e., for a major inspection and for a hot gas path inspection).

Q. Does the Company's historical data support that retirements of capital spare parts occur at these ages?

A. Yes. The Company has a large fleet of modern combined cycles and has data that extends back as far as 1993 for its current fleet of combined cycle plants. These data were used for the statistical analyses for the depreciation study, and demonstrate exactly what one would expect based on the operating characteristics described above. Figure 2 below graphs the percentage of capital spare parts that have historically survived to a given age. For example, the graph shows approximately 70% surviving at age 3.5. This means that approximately 30% of capital spare parts have historically retired by this age. Again, this is consistent with what should be expected given the operation of these units, as the turbine inspection occurs at 24,000 operating hours. Figure 2 further shows that there have been many retirements of these assets in the

three to 6-year range, just as would be expected based on the operation of these units. Figure 3, which follows Figure 2, shows that the 6.5-L0 survivor curve represents a very good fit of the representative data points for capital spare parts.

Figure 2: Historical Data for Capital Spare Parts

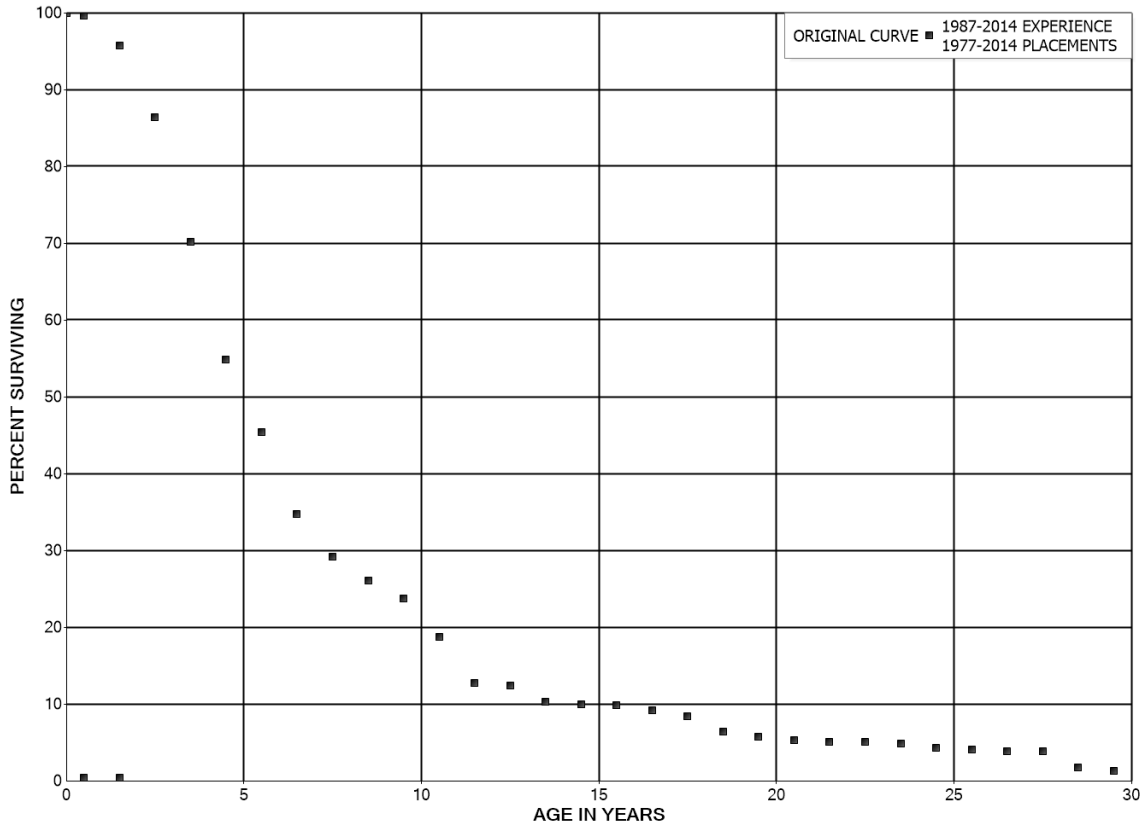
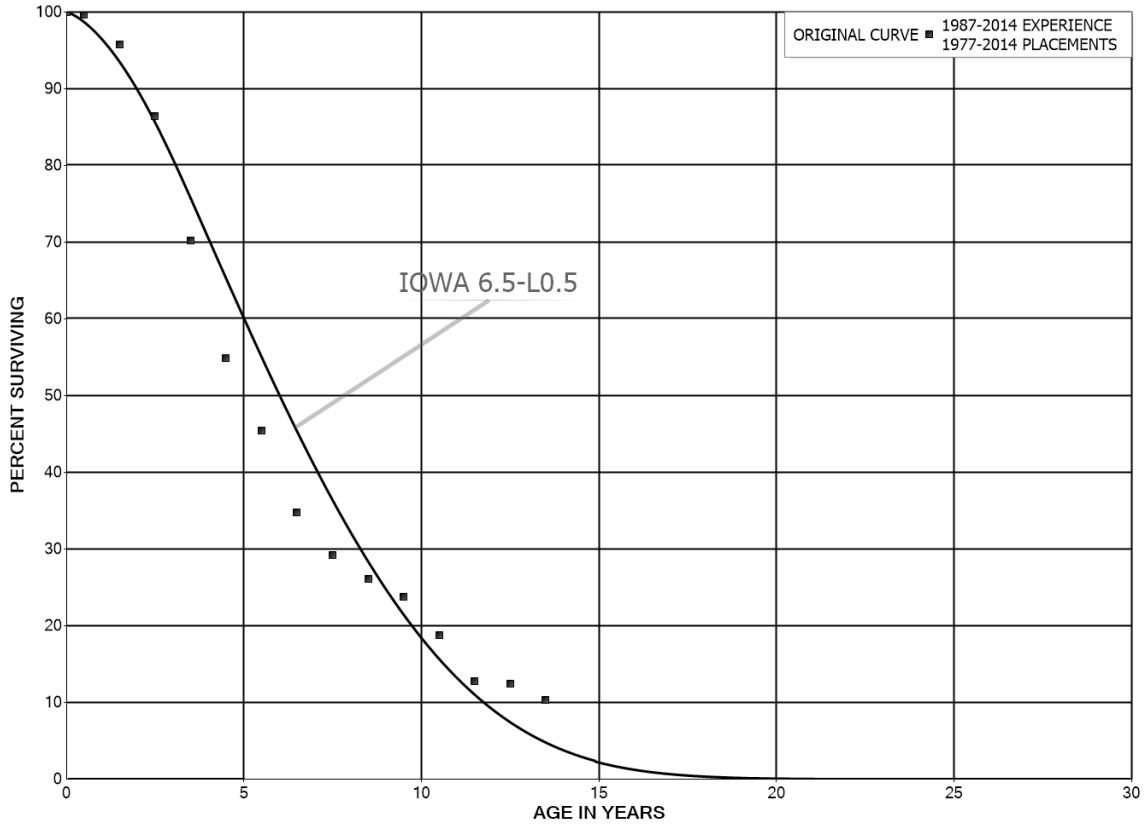


Figure 3: Historical Best Fitting Survivor Curve for Capital Spare Parts

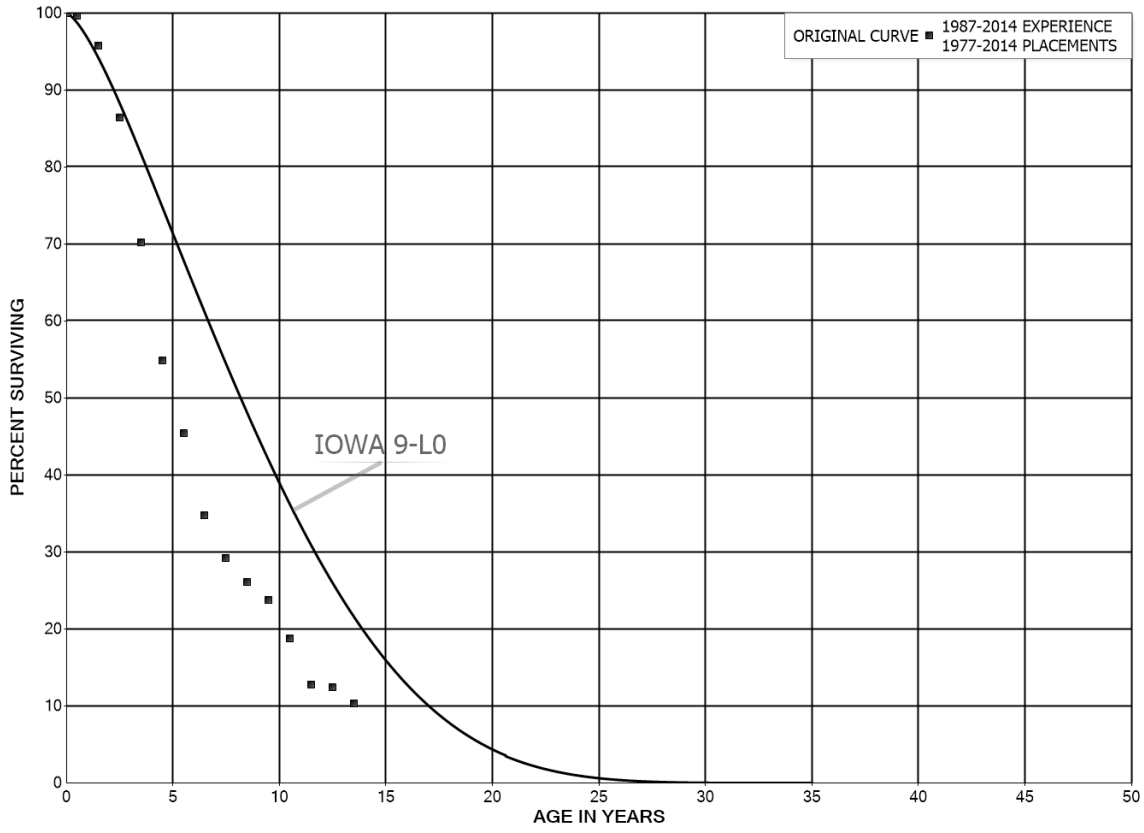


Q. In light of this historical data, did you estimate a 6.5-year average service life for capital spare parts?

A. No. For my estimates, I incorporated other factors than just the statistical analysis, and in particular have incorporated the operations and outlook for capital spare parts. As discussed on pages 693 and 694 of Exhibit NWA-1, based both on upgrades FPL has made to more robust capital spare parts and on the expected operating hours for FPL's combined cycle fleet, I have recommended to increase the average service life by about 30% compared to

what the Company has historically experienced.[2] The 9-L0 survivor curve I have estimated is shown below. As the chart illustrates, my estimate is for a longer service life than FPL has actually experienced historically.

Figure 4: 2016 Depreciation Study Estimate for Capital Spare Parts



[2] See the discussion of the estimate for capital spare parts on pages 693 and 694 of Exhibit NWA-1. I have also provided workpapers supporting this estimate in confidential Attachment 4 provided in FPL's response to OPC's First Request for Production of Documents No. 38.

Q. You have explained the support and reasons for the 9-L0 survivor curve, and have demonstrated that the Company's actual experience supports a relatively short life for capital spare parts. Have previous depreciation studies recognized a shorter life for capital spare parts?

A. Yes. In the 2009 Depreciation Study, FPL proposed a 5-year average service life for capital spare parts. In that case, the Commission Staff performed their own analysis and the Commission adopted Staff's 0.1565 interim retirement rate, which corresponds to an average service life of about 3.2 years. The currently approved depreciation rates therefore incorporate a shorter life for capital spare parts.

In the 2005 Depreciation Study, FPL had proposed average service lives for each account for each generating unit that were based on estimates for each component of the plant. In that study, the lives for capital spare parts were also much shorter than the overall life of the plant. For example, transition nozzles were estimated to have a 5-year life and turbine blades were estimated to have a 7 or 8-year life.[3] The estimates from the 2005 Study for production plant were adopted by the Commission in a settlement. Thus, shorter lives for capital spare parts for combined cycle plants have been approved and used since at least 2005.

[3] See for example pages 3 and 4 of 12 of Schedule V for Martin Combined Cycle – CC Unit 3 of Volume 5 of the 2005 Depreciation Study.

Q. Witness Kollen alleges that your proposal for a separate subaccount for capital spare parts "increases" depreciation expense. Please address this claim.

A. This claim is completely false and witness Kollen does not offer any evidence or calculations to support this claim. By contrast, Figure 1 in Section II demonstrates that my estimates for capital spare parts significantly decrease depreciation expense by approximately $450 million.

Q. What has SFHHA proposed for capital spare parts?

A. Witness Kollen has proposed to use the estimate from the other assets in Account 343 for capital spare parts. That is, he proposes that the Commission inappropriately ignore data demonstrating more than $2 billion of historical capital spare parts retirements and instead apply estimates derived from an entirely different set of assets with much longer lives.

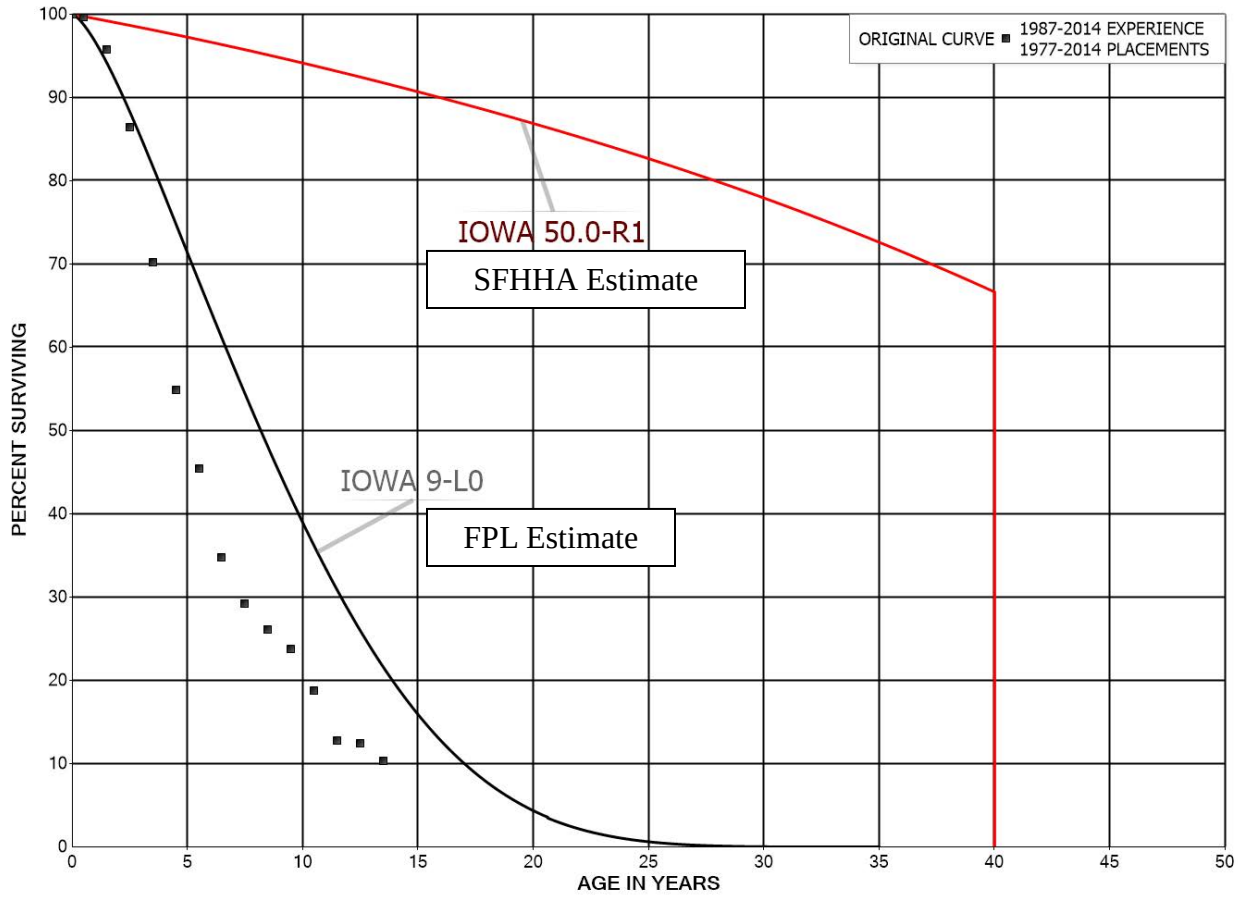
Q. You have demonstrated that witness Kollen's allegations are false. What would be the consequence of adopting his recommendations?

A. The result of witness Kollen's recommendations for capital spare parts is to artificially reduce depreciation expense to a level far below what is actually supported by the historical data. As a result, the costs of capital spare parts will not be recovered over their service lives. Instead, customers will have to pay for these assets after they are retired.

Q. To further illustrate the results of his proposals, please provide a comparison of SFHHA's estimate for capital spare parts to the Company's actual experience.

A. Figure 5 below compares my estimate and that of witness Kollen (who has effectively proposed to use the same 50-R1 survivor curve for capital spare parts as is proposed in the 2016 Depreciation Study for Account 343 Prime Movers - General) to FPL's actual experience. The figure demonstrates quite clearly that witness Kollen's estimate is completely divorced from the reality of FPL's actual operations. The curve labeled as "SFHHA Estimate" is radically different from the Company's actual data, which is shown as the black squares in the chart. This provides convincing evidence that witness Kollen's recommendation is not at all consistent with FPL's actual experience operating combined cycle power plants.

Figure 5: Comparison of FPL and SFHHA Estimates to Historical Data for Capital Spare Parts



Q. What has witness Kollen proposed?

A. Witness Kollen has proposed to use the remaining life calculated for Account 343 Prime Movers – General and apply this remaining life to Account 343.2 Prime Movers – Capital Spare Parts. This is incorrect on a number of levels. First, witness Kollen completely ignores the historical data specific to capital spare parts, and instead uses the estimates for a completely different set of assets. Second, he does not even calculate the remaining life for capital spare parts based on these (incorrect) estimates. He instead uses the remaining lives calculated for a completely different set of assets.

Q. Would you please address witness Kollen's criticisms of your capital spare parts recommendations?

A. Yes. Witness Kollen first states, "the shorter lives of certain components are already addressed in the average service lives and retirement survivor curves reflected in the present depreciation rates."[4] While this may be true of many of the existing depreciation rates,[5] it is most certainly not true of witness Kollen's estimates. His proposal therefore does not meet this criterion. Witness Kollen then states that "the interim net salvage is already addressed in the net salvage rates reflected in the present depreciation rates."[6] This is also incorrect, as the existing depreciation rates do not include a separate interim net salvage estimate for capital spare parts.

Witness Kollen then states that "the depreciation study fails to properly separate the historical data between the two new subaccounts. Instead, it assumes that the historic interim retirements and net salvage that have applied generally will continue to apply to account 343 *General*, which is incorrect, and assumes that a different and more aggressive interim retirement curve and different net salvage apply for account 343.2 *Capital Spare Parts*, which is also incorrect due to the Company's accounting for Capital Spare Parts, which overstates both parameters."[7] Witness Kollen is completely incorrect in his

[4] Direct testimony of Lane Kollen, page 25, lines 18 through 20.
[5] The currently approved depreciation rates for West County, Cape Canaveral, Riviera, and Port Everglades do not include estimates for capital spare parts.
[6] Direct testimony of Lane Kollen, page 25, lines 20 through 21.
[7] Direct testimony of Lane Kollen, pages 25 through 26.

assessment. I have separated both the historical life analysis and the historical net salvage analysis data into the two separate subaccounts and have studied both subaccounts separately based on the Company's actual experience for each subaccount. This can be seen quite clearly in the statistical life analysis for the two accounts presented on pages 183 through 188 of Exhibit NWA-1 and in the statistical net salvage analysis presented on pages 327 through 331 of Exhibit NWA-1. The two subaccounts correctly have different survivor curve and net salvage estimates because they have historically experienced and will continue to experience different survivor curve and different net salvage characteristics. Further, as I have explained in detail, my estimate for capital spare parts reflects that future service lives will be longer than the Company has historically experienced. This estimate is certainly not "aggressive," and in fact, the opposite is true.

Q. What do you conclude regarding witness Kollen's proposals for depreciating capital spare parts?

A. One cannot simply ignore over $2 billion in historical activity in order to artificially reduce depreciation expense – which is exactly what witness Kollen has done. In contrast, my estimates for capital spare parts are most appropriate for these assets, and take into consideration both the historical experience and the outlook for capital spare parts.

Further, as I have demonstrated in this testimony, in my direct testimony, and in the 2016 Depreciation Study, capital spare parts have significantly different

service lives than the other assets in Account 343. For this reason, it is most appropriate to create a separate subaccount for capital spare parts.

C. INTERIM NET SALVAGE

Q. Witnesses Kollen has proposed to change interim retirement estimates for capital spare parts. Has he correctly adjusted the net salvage estimates for production plants to incorporate these changes to interim retirements?

A. No. I have explained that his estimates of interim retirements are inappropriate. However, even if one were to accept his flawed estimates he has made errors in his calculations. He has not adjusted the net salvage for production plant to account for his change in interim retirement estimates.

Q. Please explain this error.

A. As I have discussed on page 44 of Exhibit NWA-1, the net salvage included for production plant in the depreciation study is only for interim retirements and not final retirements.[8] Thus, the net salvage percentages in the depreciation study for production plant accounts must be adjusted so as to apply only to interim retirements. For example, if the net salvage estimate for interim retirements is negative 10%, and 20% of the assets in the account are estimated to be retired as interim retirements, then the net salvage estimate that should be used in the depreciation calculations to be applied to the entire

[8] I should note that because dismantlement for FPL is handled through a different recovery mechanism, there is no final net salvage for FPL's production plants. For studies in which dismantlement is included in depreciation rates, then the final net salvage estimate must also be included in this calculation.

account is negative 2% (negative 10% multiplied by 20%). If instead 50% of the assets are estimated to be retired as interim retirements, then the net salvage used for the depreciation calculations will be different – namely, negative 5% and not negative 2%.

Q. Does witness Kollen recognize this fact?

A. No. He does not make the appropriate adjustment in his recommendations.

Q. How does this concept relate to capital spare parts?

A. By ignoring this concept, he has significantly - and erroneously - reduced depreciation expense. The Company experiences positive salvage for capital parts. When the parts are removed from the plant they are either refurbished or scrapped, and in either case the Company records gross salvage. The estimate in the study for interim retirements is positive 35%. Witness Kollen does not dispute this estimate in his testimony.

Because the positive 35% estimate applies only to interim retirements, it must be adjusted in order to develop a net salvage percentage that applies to the entire plant balance. I have done so in the 2016 Depreciation Study, and my calculations are presented on page 302 of Exhibit NWA-1.

Q. Has witness Kollen adjusted the interim net salvage estimates so as to only apply to interim retirements?

A. No. Instead he has inappropriately continued to apply the 35% net salvage estimate to the entire capital spare parts subaccount despite the fact that he

estimates that only a fraction of the balance of capital spare parts will be retired as interim retirements.

Q. What is the result of this error?

A. The result of this significant oversight is an artificial reduction in depreciation expense of at least $25 million.

D. ALLOCATION OF ACCUMULATED DEPRECIATION FOR A NEW CAPITAL SPARE PARTS SUBACCOUNT

Q. Please explain the allocation of accumulated depreciation for new subaccounts.

A. Because FPL has not historically had a subaccount for capital spare parts, it has maintained accumulated depreciation (also referred to as the "book reserve") at the account level for Account 343. For the recommended new capital spare parts subaccount, there is therefore the need to allocate the book reserve between capital spare parts and non-capital spare parts. The standard method in the industry for doing so is to use the theoretical reserve for each subaccount to allocate the book reserve. I have used this approach for both capital spare parts and for the separation of distribution poles into wood and concrete subaccounts.

Q. What has SFHHA proposed?

A. SFHHA witness Kollen has proposed to use the plant balance instead of theoretical reserve. This is an inappropriate method because it fails to recognize that accumulated depreciation is a function of age. That is, a brand

new asset will have less accumulated depreciation than a 20-year old asset, all else equal, regardless of its plant balance.

Q. Do authoritative depreciation texts support that the theoretical reserve is an appropriate method of allocating the book reserve?

A. Yes. Page 188 of the NARUC Manual states:

> Theoretical reserve studies also have been conducted for the purpose of allocating an existing reserve among operating units or accounts.

Q. Please explain why witness Kollen's approach is incorrect.

A. The main issue with witness Kollen's approach is that it does not take into consideration the age of the assets when allocating the reserve. Because the reserve is a function of age, this must be considered when allocating the book reserve.

This issue with witness Kollen's approach can easily be explained with a simple example. Consider an account that has two units, each with an original cost of $100. Both units have a 20-year life. One unit is 10 years old and the other is brand new (i.e., 0 years old). The accumulated depreciation for the account is $50. Using witness Kollen's method, the book reserve would be allocated equally to the two units, because each represents one half of the plant balance for the account. This would of course be incorrect – the brand new asset should have a reserve balance of $0 because it is brand new and therefore has experienced no depreciation. The 10-year old asset should have a reserve balance of $50.

Q. Would using the theoretical reserve correct this approach?

A. Yes. Using the same example, the theoretical reserve for the brand new asset is $0, and the theoretical reserve for the 10-year old asset is $50. Thus, an allocation in proportion to the theoretical reserve would correct the issue with witness Kollen's approach.

Q. Witness Kollen states that your method of allocation results "results in an excessive allocation of the depreciation reserve to subaccount 343, which has a longer service life, and an inadequate allocation to subaccount 343.2, which has a shorter service life."[9] Please address this claim.

A. First, I should be clear that any implication by witness Kollen that there was an attempt to increase depreciation expense based on an allocation methodology is simply incorrect. As explained above, I have used the industry standard method of allocating the book reserve to subaccounts. Second, I have explained that witness Kollen's proposed alternative is fundamentally incorrect and inappropriate. Finally, if anything my method actually results in allocating too much of the depreciation reserve to Account 343.2. If one were to retrospectively construct the book reserve for each account by applying historical depreciation rates to the respective subaccount plant balances, then the result would be a lower book reserve for capital spare parts than the result of my methodology.

[9] Direct testimony of Lane Kollen, page 27, lines 9-11.

For example, for West County Unit 1 the book reserve is a negative amount for Account 343.[10] This is due to retirements of capital spare parts, not retirements for the other types of assets in the account. Thus, a retrospective method of allocating the book reserve would assign a negative book reserve to capital spare parts and a positive book reserve to the rest of Account 343. The book reserve would therefore be lower for capital spare parts than occurred based on my allocation method, which would increase depreciation expense because the life of capital spare parts is shorter than for the other assets in the account. As a result, my method actually produces lower depreciation expense than the alternative.

E. OKEECHOBEE DEPRECIATION RATES

Q. What has FPL recommended for the Okeechobee combined cycle plant?

A. As discussed on page 11 of FPL witness Ferguson's direct testimony, FPL proposes to use the depreciation rates for the Port Everglades combined cycle plant as a proxy for the depreciation rates for Okeechobee. This represents a 3.66% composite depreciation rate using the depreciation rates calculated as of December 31, 2016 that have been provided in FPL's Second Notice of Identified Adjustments. By using Port Everglades as a proxy, the depreciation rates for Okeechobee properly incorporate estimates of interim retirements and interim net salvage.

[10] See page 62 of Exhibit NWA-1.

Q. What has SFHHA proposed?

A. SFHHA witness Kollen has proposed to assume that the Okeechobee plant will experience no interim retirements and has simply recommended a 2.50% depreciation rate based on the 40-year life span for combined cycle facilities.

Q. Witness Kollen states that "the Okeechobee depreciation rate should reflect a service life of 40 years."[11] Do FPL's recommended depreciation rates for Okeechobee reflect a service life of 40 years?

A. FPL's recommended depreciation rates reflect a life span of 40 years. They also correctly reflect the impact of interim retirements, which means that the overall average service life for all assets at the plant will be less than 40 years.

Q. Will Okeechobee experience interim retirements?

A. Yes. As has been the case with all of FPL's combined cycle plants, various components of the Okeechobee plant will need to be replaced in order to operate the plant reliably and efficiently. In order to determine equitable and fair depreciation rates, estimates of interim retirements therefore must be incorporated into the depreciation rates for Okeechobee.

Q. What would be the consequence of not including interim retirements in the depreciation rates for Okeechobee as witness Kollen has proposed?

A. The result would be that assets retired as interim retirements would not be recovered over their service life. This would be particularly true for capital spare parts.

[11] Direct testimony of Lane Kollen, page 66, lines 16-17.

V. MASS PROPERTY SERVICE LIFE ESTIMATES

A. INTRODUCTION

Q. What is mass property?

A. The term "mass property" refers to accounts such as poles or substation equipment for which assets are continually added and replaced. Mass property contrasts with life span property, which as I explained in Section III is property for which all assets at a facility will be retired concurrently. The Company's transmission, distribution and general plant accounts are mass property accounts.

Q. How are service lives estimated for mass property?

A. A mass property account is typically a group of assets for which there will be a range of service lives. For example, some poles will retire at early ages (for example, if hit by a car) and some will survive for much longer. The range of lives for a group of assets is referred to as the "dispersion" of lives or dispersion of retirements. Service lives are estimated for mass property accounts using established survivor curves, which provide an estimate of both an average service life and a dispersion of lives around the average. This concept is discussed in more detail in Part II of Exhibit NWA-1.

Q. In general, how do your estimated average service lives compare to the current, Commission-approved estimates?

A. For mass property accounts, I have proposed to increase the average service lives for 21 accounts, retain the currently approved average service life for 11

accounts, and to reduce the average service life for 1 account. Because all else equal a longer average service life results in lower depreciation expense, my service life estimates result in a decrease in depreciation expense when compared to the Commission approved estimates.

Q. Please summarize the survivor curve estimates proposed by each party in the case.

A. Table 1 below provides a summary of the currently approved, FPL proposed, FEA proposed survivor curves for each account for which FEA has recommended a different estimate than my estimate. The table shows the average service life as well as the Iowa survivor curve type. For example, a 48-R1 survivor curve has a 48-year average service life and a dispersion pattern consistent with the R1 survivor curve type.

Table 1: Comparison of Approved, FPL, FEA Survivor Curve Estimates for Mass Property Accounts

Account		Approved	FPL	FEA
362	Station Equipment	43-R1.5	45-R1.5	51-S0.5
365	Overhead Conductors and Devices	41-S0	48-R1	57-R1
369.1	Services – Overhead	48-R1	53-R1	56-R1.5

As can be seen in the table, for the three accounts that have been challenged by FEA, I have increased the average service lives for each (when compared to the currently approved estimates). The overall result has been to reduce depreciation expense for these accounts, as a result of the increases in average service life.

Q. What has FEA proposed?

A. FEA has proposed adjustments to three accounts. For each adjustment FEA has made, witness Andrews has recommended to increase the average service life when compared to both the approved estimate and to my estimate.

Q. You have discussed the changes in average service lives. Have you also changed the survivor curve types?

A. For some accounts I have, and for others I have retained the existing Iowa curve types. In general most of my changes in curve types have been relatively minor (e.g., a R1.5 to R1).

Q. Has FEA changed curve types from the Commission approved estimates?

A. Yes. FEA witness Andrews has changed the curve type for two of the three accounts for which he proposes an adjustment.

Q. Have any other parties recommended adjustments to the mass property service life estimates in the 2016 Depreciation Study?

A. No. The only party to provide testimony addressing mass property service lives is FEA.

Q. How will you address the mass property service life estimates from FEA?

A. I will first explain the process for the statistical life analysis – that is, for fitting survivor curves to the Company's data. This will first include a general discussion of the process. I will then discuss issues related to the selection of bands, which is the primary basis for FEA witness Andrews' recommendations.

Finally, for each account for which FEA has proposed a different service life estimate I will provide an explanation as to why FPL's proposed estimates are most reasonable and most appropriate. This discussion is provided as Exhibit NWA-3 to my rebuttal testimony.

B. STATISTICAL LIFE ANALYSIS

i. Introduction

Q. Please explain the process for the statistical life analysis.

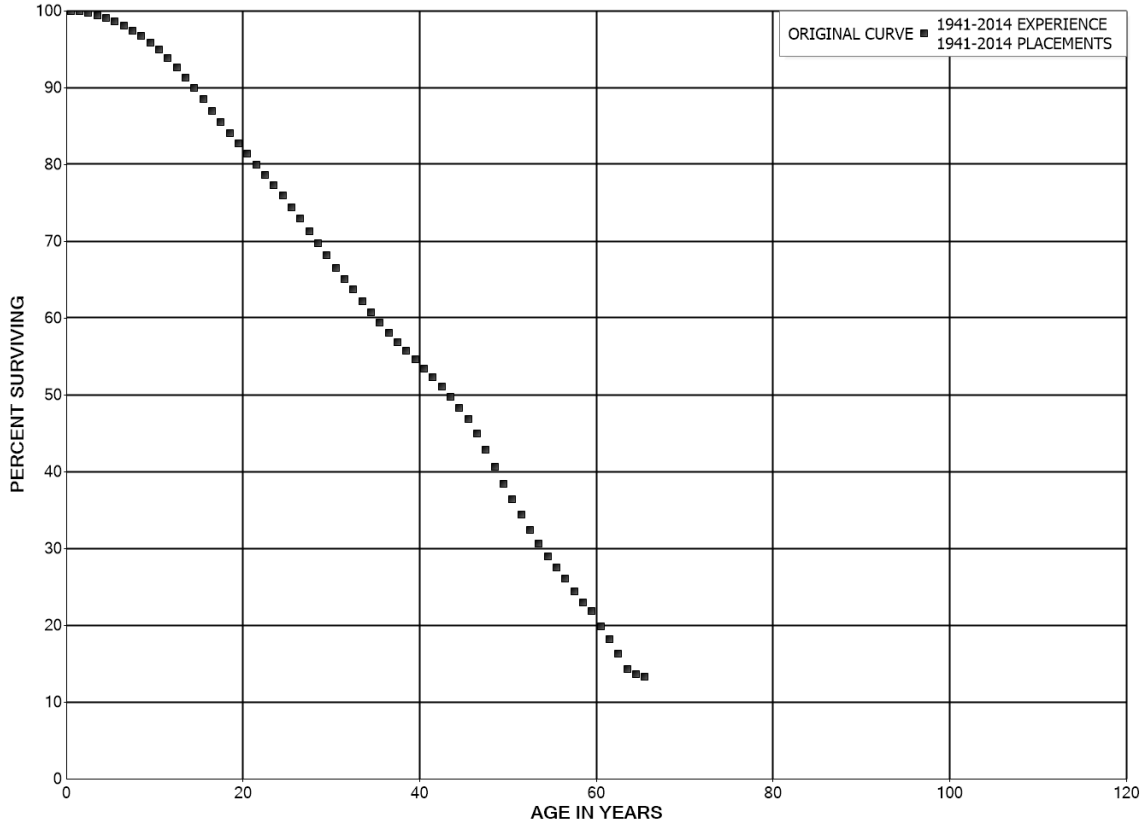
A. FEA and I agree with the use of a statistical analysis based on aged retirements known as the retirement rate method for assets in the transmission, distribution, and general classes of plant. I have described this method on pages 16 through 25 of my direct testimony and in Part II of Exhibit NWA-1. When using the retirement rate method, original life tables are developed from the Company's historical accounting data. The original life tables provide an indication of the percentage of assets that have historically survived to each age for which data is available.

Q. Please provide an example of this analysis for an FPL account.

A. As an example, I will use Account 367.6 Underground Conductors and Devices – Duct System. The original life table for the overall experience band for this account can be found on pages 254 and 255 of Exhibit NWA-1. The table develops the percentage of installations that have historically survived to each age (the age is shown in the left-most column of the table and the percent surviving is shown in the right-most column).

I have presented all of the data points from the original life table for this account in Figure 6 below. The graph shows the percentage of assets that have historically survived to each age. The percent surviving from the life table is shown on the Y-Axis and the age is shown on the X-Axis. For example, the chart shows that the original life table indicates that about half of the assets have historically survived to about age 40, and that by age 60 only about 20% have survived.

Figure 6: Historical Data for Account 367.6 Underground Conductors and Devices - Duct System



Q. How are original life tables used to forecast service lives?

A. Iowa survivor curves can be fit to the original life tables developed from the Company's actual experience. Iowa survivor curves provide a complete

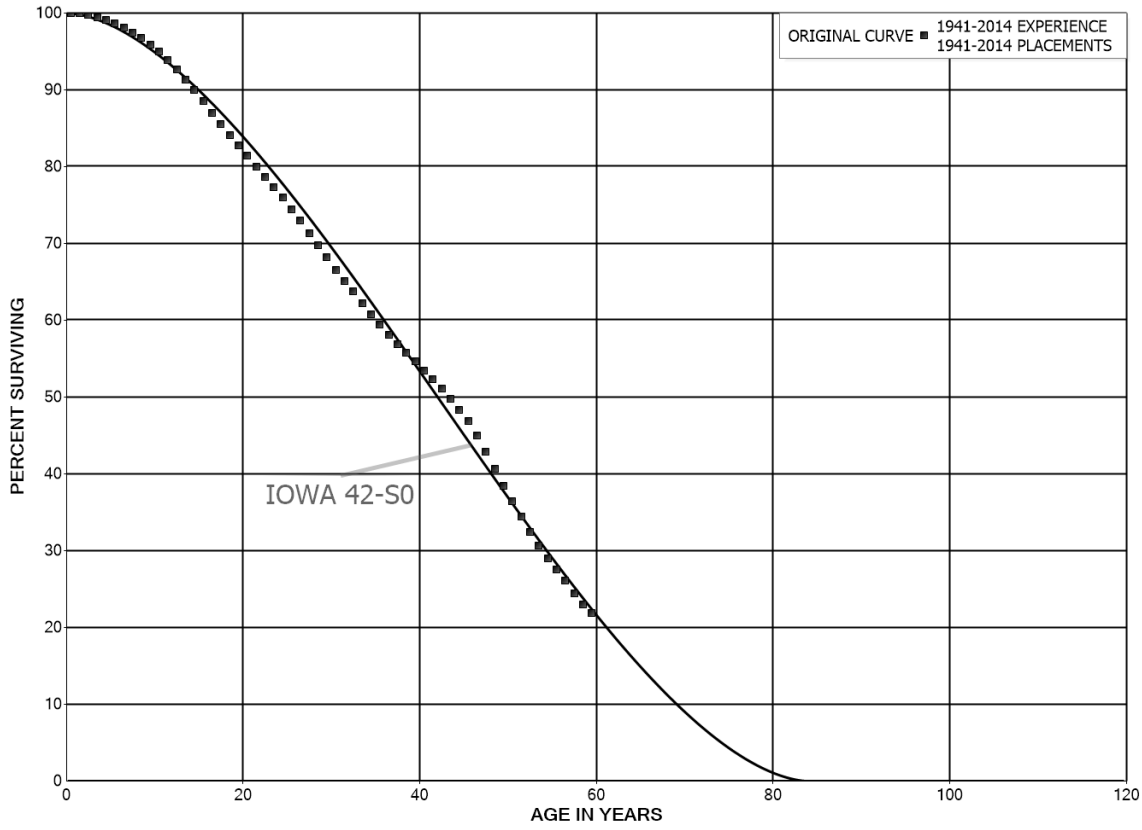
indication of the percentage of assets forecast to survive to each age, and average service lives and remaining lives can be derived from a given Iowa curve in order to calculate depreciation expense.

Curve fitting or curve matching of Iowa curves to an original life table can be performed either visually or mathematically. Figure 7 below provides a comparison of the 42-S0 survivor curve to the original data.[12] The 42-S0 survivor curve is the estimate I have recommended in the 2016 Depreciation Study, and the chart below is the same as presented on page 253 of Exhibit NWA-1.

[12] For reasons I will explain, I have not shown every data point in the original life table for Figure 7.

Figure 7: Comparison of FPL Estimate and Historical Data for Account 367.6

Underground Conductors and Devices - Duct System



Q. What is "visual curve matching"?

A. For visual curve matching, smooth survivor curves (normally Iowa survivor curves) are charted on the same graph as the original curve. By graphing the curves on the same graph, one can visually make a determination as to how close of a match the smooth curve is to the original curve.

Q. What is "mathematical curve matching"?

A. When performing mathematical curve matching, the difference between the smooth survivor curve and the original survivor curve is compared mathematically. This matching is typically performed using computer software. For mathematical curve matching I have used a measure of fit

called the "residual measure."[13] A lower residual measure indicates a better mathematical fit of the data (and a residual measure of 0.00 would indicate that every data point perfectly matches the fitted Iowa curve).

Q. Is the 42-S0 survivor curve a good match to the historical data?

A. Yes. As can be seen in Figure 7 above, the line shown for the 42-S0 survivor curve is close to the original life table for each age. It is therefore a good visual fit of the data. It is also an excellent mathematical fit of the data, and has a residual measure of 0.71.

Q. In Figure 7, you have not plotted all of the data points from the original life table. Please explain.

A. The data points in an original life table are not all based on the same level of historical activity. For example, as can be seen on pages 254 and 255 of Exhibit NWA-1, for this account the level of investment that has been in service for each age (referred to as "Exposures" and shown in the second column of the original life table) varies from over $1 billion to less than $10,000. The different data points therefore have different statistical significance and should not be given the same consideration in the curve fitting process. In part due to this reason,[14] some data points therefore should be emphasized less than others and some should be excluded entirely. Figure 7 only includes data points based on $1 million or more in exposures. For the

[13] The residual measure is based on the sum of squared difference between the original and smooth curve, which is a widely accepted statistical technique. The residual measure I have used normalizes the sum of squared differences for the number of data points included in the fitting process, and is equal to the square root of the total sum of the squares of differences between points on the original and smooth curves divided by the number of data points.

[14] There are other factors to consider as well, such as trends in the data and the level of retirements.

types of assets in this account – underground conductors and related devices - $1 million of assets represents fairly large number of assets and is a significant enough level of exposures to be included in the analysis for this account.

Q. For both visual and mathematical curve matching, can the selection of data points impact the results of the analysis?

A. Yes, it can. It is important to determine which data points from the original survivor curve should be included in the analysis, and which should be emphasized more than others. Depending on the data points included, the curve fitting process can yield different results.

ii. Selection of Bands

Q. Please explain the term "band" as it is used for life analysis.

A. The term band generally refers to the range of years of historical data that are included when developing an original life table. The term "experience band" refers to the range of transaction years for data included in an original life table. The term "placement band" refers to the range of vintage years included in an original life table.

Q. How does the selection of bands impact the life analysis process?

A. Typically for a depreciation study multiple bands will be analyzed and considered for each account. For example, for most accounts I have analyzed the "overall band," meaning a band with all years of data available, as well as more recent experience and placement bands (e.g., the most recent 20 or 30-year bands). The overall band incorporates the largest sample size because it

incorporates all of the data available. It also typically incorporates the period of time closest to the life cycle of the assets studied. More recent bands can help to identify trends that may have changed over time, and if analyzed carefully they can provide insight about changes to the mortality characteristics of the property studied. However, they are also based on a smaller sample size and a shorter time period – often only a fraction of the average service life and a smaller fraction of the full life cycle of the property studied. For this reason shorter bands can overemphasize trends and overreact to short term, but non-recurring activity.

Q. Is there a difference between your approach and those of the intervenors?

A. Yes, at least for some accounts. For the three accounts for which FEA witness Andrews proposes adjustments, he has relied on the most recent 20-year experience band.

Q. Witness Andrews has criticized you for failing to recognize trends towards longer service lives.[15] Are their criticisms valid?

A. No. As noted previously, I have increased the average service lives for each of the accounts challenged by witness Andrews. Thus, I have indeed recognized trends towards longer service lives. What I have not done is overemphasize short term changes that can be the result of the natural variability in annual activity.

[15] See for example page 13, lines 20-21 of the direct testimony of Brian Andrews.

Q. Do you agree with witness Andrews' approach to rely on more recent bands?

A. No. He has relied on bands that contain too short a period of experience to be relied on for the final survivor curve estimate. Witness Andrews relies on a 20-year experience band, with activity that has occurred from 1995 through 2014. Twenty years is, in my judgment, too short a period of time to rely on when a longer historical record is available. The accounts for which witness Andrews has proposed an adjustment to the recommended service life have average service lives of 40 or more years, which means that a portion of the accounts will remain in service for 70 or 80 years, if not longer. A 20-year period therefore is only a fraction of this overall life cycle, and as a result is not statistically robust enough of a period of time to be relied on for the final estimate. Further, a more recent band only observes a portion of the life cycle of different ranges of vintages. That is, for each vintage of property the retirements experienced in a 20-year band only range for 20 years. A 20-year band therefore does not include a full life cycle – or even close to a full life cycle – of any vintage.

Q. Are there any reasons to expect that using only the most recent 20 years of activity may not be appropriate for FPL?

A. Yes. In real-world utility operations the level of capital spending (and therefore the level of retirements) for a single group of assets can vary over time, increasing in some years and decreasing in others. This is the result of changing capital budget cycles (e.g., the Company may focus capital dollars

on new power plants for some years and then target transmission or distribution lines in other years), as well as external factors such as the overall state of the economy. As noted above, witness Andrews has relied on the most recent 20-year experience band, which includes transactions recorded from 1995 through 2014. However, this period of time includes unusual events that are unlikely to reoccur – at least with the same frequency as has happened in the last 20 years.

One is the recession in the late 2000s. While recessions will occur periodically over the full life cycle of utility property, it is unlikely that there will be many recurrences of a recession as severe as the recent "Great Recession." Florida was especially hard hit by this recession. Another occurrence that may not be recurring was in the late 1990s. As the Company's data shows, there was a pronounced decline in both additions and retirements for many accounts.

Q. What is the impact of these events on the most recent 20-year experience band?

A. An event such as the Great Recession is unlikely to occur again with much frequency, and at a minimum will be less frequent than in the last 20 years. By relying on a 20-year band, witness Andrews has given undue consideration to an event such as this.

Q. Please provide an example to demonstrate the impact on the most recent 20-year experience band?

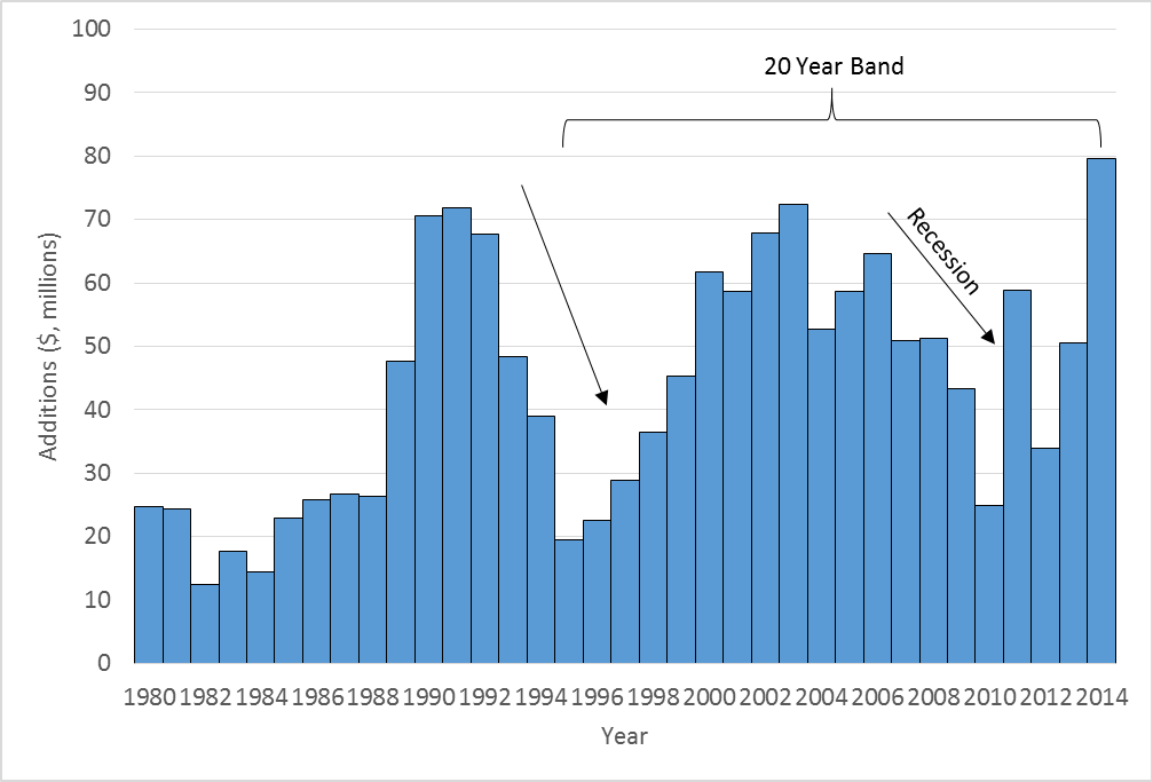
A. As a part of the depreciation study, it is common to review the historical levels of additions and retirements. In my workpapers, I have provided a review of this information.[16] For many of FPL's accounts, there is a drop in the overall level of both additions and retirements in the mid to late 1990s. Similarly, in the late 2000s there is also a drop in both types of activity, corresponding with the Great Recession.

Figure 8 below provides a graph of annual additions for Account 362 Station Equipment. This is one of the accounts for which witness Andrews relies on a 20-year experience band, ranging from 1995 through 2014. One item to note from this figure is that activity varies over time. This is consistent with my comments above regarding capital spending cycles.

Additionally, as the figure illustrates, there is a noticeable decline in additions in both the mid-1990s and in the late 2000s. The figure also shows the range of years included in the most recent 20-year experience bands. This shows that the most recent 20-year band, which includes data from 1995 through 2014, includes two periods that have lower levels of activity. This confirms my statement above that the most recent 20-year band over-emphasizes what are likely to be unusual events.

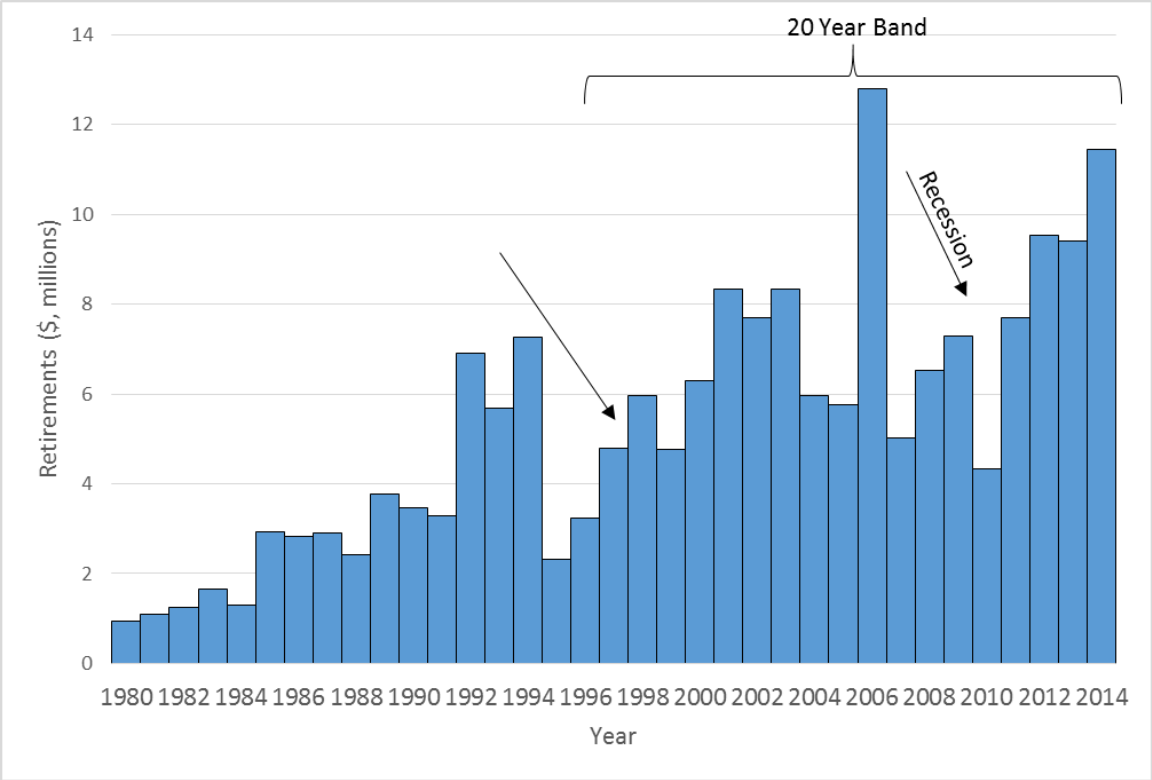
[16] See the response to OPC's First Request for Production of Documents No. 2.

Figure 8: Annual Additions for Account 362 Station Equipment



A similar pattern of activity can be seen in the retirements for this account, which are presented in Figure 9 below.

Figure 9: Annual Retirements for Account 362 Station Equipment



Q. Do other accounts exhibit a similar pattern?

A. Yes. For each of the accounts for which witness Andrews has recommended an adjustment to the service life there is a similar pattern of additions and retirements.

Q. Do you have any other comments regarding the selection of bands?

A. Yes. The overall approach to the selection of bands should be applied consistently. That is, one should not select shorter bands only when they increase the average service life, but not use shorter bands when they would support a shorter service life. I have used a consistent approach. For the

reasons set forth above, I have generally relied on the overall band unless there are specific reasons to deviate from the longer range of experience.

Q. Witness Andrews cites two depreciation texts in support of his decision to rely on the most recent 20-year bands. Please address his discussion.

A. I should first note that one of the quotes, from NARUC, is more supportive of my approach than that of witness Andrews. The NARUC Manual states:

> In general, historical data used to forecast future retirements should not contain events that are either anomalous or unlikely to recur.[17]

As noted above, witness Andrews's approach gives too much emphasis to events such as the Great Recession and the decline of activity in the 1990s, which are not likely to recur (at least not with the same frequency as in the most recent 20-year experience band).

Additionally, a closer look at the passage cited by witness Andrews from Wolf and Fitch reveals that the authors' criticism of the overall band is more focused on placement bands, not experience bands. Although he has relied on a shorter experience band, Witness Andrews has relied on the overall placement band for each account. Specifically, the second portion of the section of Wolf and Fitch cited by witness Andrews reads:

> Each individual retirement ratio is based on a different group of property. The first retirement ratio will include observations

[17] NARUC Manual, page 112.

> from all vintages and the second retirement ratio from all but the most recent. This pattern continues until the final point is based on observations from only one vintage. It is difficult to figure out the exact meaning of the overall band, and, in spite of the fact it does include all the data points, it should be given limited significance.[18]

Thus, a more detailed reading of this passage reveals that the discussion of the overall band is related to vintages, not transaction years. I have explained above why I believe the overall band is in fact appropriate to use for FPL. However, because placement bands, not experience bands, are associated with vintages, this passage from *Depreciation Systems* is in fact not supportive of witness Andrews's approach.

Q. Please explain.

A. Again, witness Andrews's approach is to use the overall placement band, but only a 20-year experience band. His approach therefore actually compounds the criticism of the overall band made in *Depreciation Systems*. Because the 20-year experience band only contains 20 years of history for each vintage, it incorporates only a fraction of the life cycle for each vintage – and incorporates the full history of no vintages except those installed within the past 20 years. As a result, the most recent 20-year experience band is even more "difficult to

[18] Frank Wolf and Chester Fitch, *Depreciation Systems*, 1994, pages 186-187. (Emphasis added)

interpret" than the overall band, because it is effectively pieced together from relatively small portions of the experience for each vintage.

C. ACCOUNT SPECIFIC

Q. Do you also have specific responses to the estimates made by witness Andrews?

A. Yes. Exhibit NWA-3 provides a discussion of each account for which FEA has proposed a different survivor curve estimate than what has been recommended in the 2016 Depreciation Study. The discussion in Exhibit NWA-3 responds to specific assertions made by FEA and also includes graphical comparisons of recommended survivor curves. These discussions explain in more detail why FPL's proposed survivor curves are the most appropriate estimates for each account.

VI. MASS PROPERTY NET SALVAGE ESTIMATES

Q. Has any party recommended adjustments to the mass property net salvage estimates in the 2016 Depreciation Study?

A. No. No party has provided testimony that challenges my mass property net salvage estimates.

VII. FPL'S SECOND NOTICE OF IDENTIFIED ADJUSTMENTS

Q. Please explain FPL's Second Notice of Identified Adjustments as it relates to the 2016 Depreciation Study.

A. For FPL's Second Notice of Identified Adjustments, which was filed on June 16, 2016, the calculated depreciation rates and accruals were updated to reflect estimated December 31, 2016 plant and reserve balances instead of the estimated December 31, 2017 plant balances originally used in the 2016 Depreciation Study.

Q. Did this change in calculation date impact any of the service life or net salvage estimates in the 2016 Depreciation Study?

A. No. The service life and net salvage estimates are the same. All that was changed was the calculation date and the corresponding plant and reserve balances.[19]

Q. Why did FPL provide these updated depreciation calculations based on 2016 plant and reserve balances?

A. Based on discovery from Staff and other parties, it appeared that the use of 2017 plant and reserve balances instead of 2016 balances was a point of concern for other parties. In particular, because the December 31, 2017 originally filed in the 2016 Depreciation Study is subsequent to the January 1, 2017 implementation date of the proposed depreciation rates, FPL's

[19] I should note that changing the calculation date changes the calculation of composite net salvage percents for production plant, which can result in slight changes to the composite net salvage percents used for the depreciation calculations. However, this does not result in a change of estimates, but instead automatically occurs with a change in the calculation date.

understanding was that other parties were concerned that the use of December 31, 2017 balances may not be consistent with FPSC Rule 25.6.0436(4)(d) Depreciation, Florida Administrative Code ("F.A.C.").

Q. Why did you use December 31, 2017 plant and reserve balances in the originally filed 2016 Depreciation Study?

A. In preparing the 2016 Depreciation Study, we faced a challenging circumstance: FPL is replacing a number of assets through the end of 2017 for which the new assets are expected to have a longer service life than those that they are replacing. This is true for both concrete transmission and distribution poles and the Company's capital spare parts for its combined cycle fleet, but is most pronounced for capital spare parts. Specifically, FPL's upgrade to the GE 7FA.05 components is scheduled to be completed by the end of 2017, and a large portion of the GE 7FA.05 components will be added in 2017 – that is, subsequent to the January 1, 2017 effective date of the depreciation study.

This presents a situation in which a number of assets will be retired within a year of the effective date of the proposed depreciation rates and will be replaced with assets that will have longer service lives. For this reason, in my judgment it was appropriate to use December 31, 2017 balances so that the calculated service lives would be most representative of the plant that would actually be in service by the end of the test year.

Q. On page 23 of his testimony SFHHA witness Kollen recommends that the Commission reject the 2016 Depreciation Study and continue to use the current depreciation rates because that Study original used December 31, 2017 balances. Do you agree?

A. No. First, as I have explained, the Company filed depreciation rates based on December 31, 2016 in its Second Notice of Identified Adjustment on June 16, 2016. These depreciation rates alleviate any criticism witness Kollen makes. Second, it would clearly be inappropriate to continue to use the currently approved depreciation rates. As the 2016 Depreciation Study demonstrates, the approved depreciation rates are no longer appropriate – whether calculated with 2016 or 2017 balances.

I should again make clear that even if there were no changes to the service life and net salvage estimates, the depreciation rates would still change when calculated based on more recent balances than the December 31, 2009 balances used to calculate the currently approved depreciation rates. As I demonstrated on Figure 1 in Section II of my rebuttal testimony, the depreciation expense based on the service life and net salvage estimates approved in 2009 updated to the recent plant balances would be $563.3 million higher than the results of my 2016 Depreciation Study. Thus, if one were to apply witness Kollen's proposal in a manner that adequately reflected the reality of FPL's current plant in service instead of arbitrarily freezing

things in time as of 2009, the result would be a very large additional depreciation expense that customers would have to bear.

Q. Witness Kollen claims that "[a] new comprehensive depreciation study would have to be performed using plant, accumulated depreciation, and related net salvage, as of the effective date of the new rates, or January 1, 2017" in order overcome the use of December 31, 2017 plant balances. Please address this criticism.

A. While witness Kollen does not define what he means by "comprehensive depreciation study," he is incorrect that calculating depreciation rates using 2016 instead of 2017 plant and reserve balances would require a comprehensive change to the entire study. The change from 2017 to 2016 balances, which was provided to all interveners with all supporting workpapers on June 16, 2016, does not result in changes to any of the service or net salvage estimates in the 2016 Depreciation Study. Instead, it is simply a change to the mathematical calculations of depreciation rates using these estimates, which the interveners had ample opportunity to confirm. In short, the Commission has everything it needs to set depreciation rates based on December 31, 2016 plant and reserve balances.

Q. Does this conclude your rebuttal testimony?

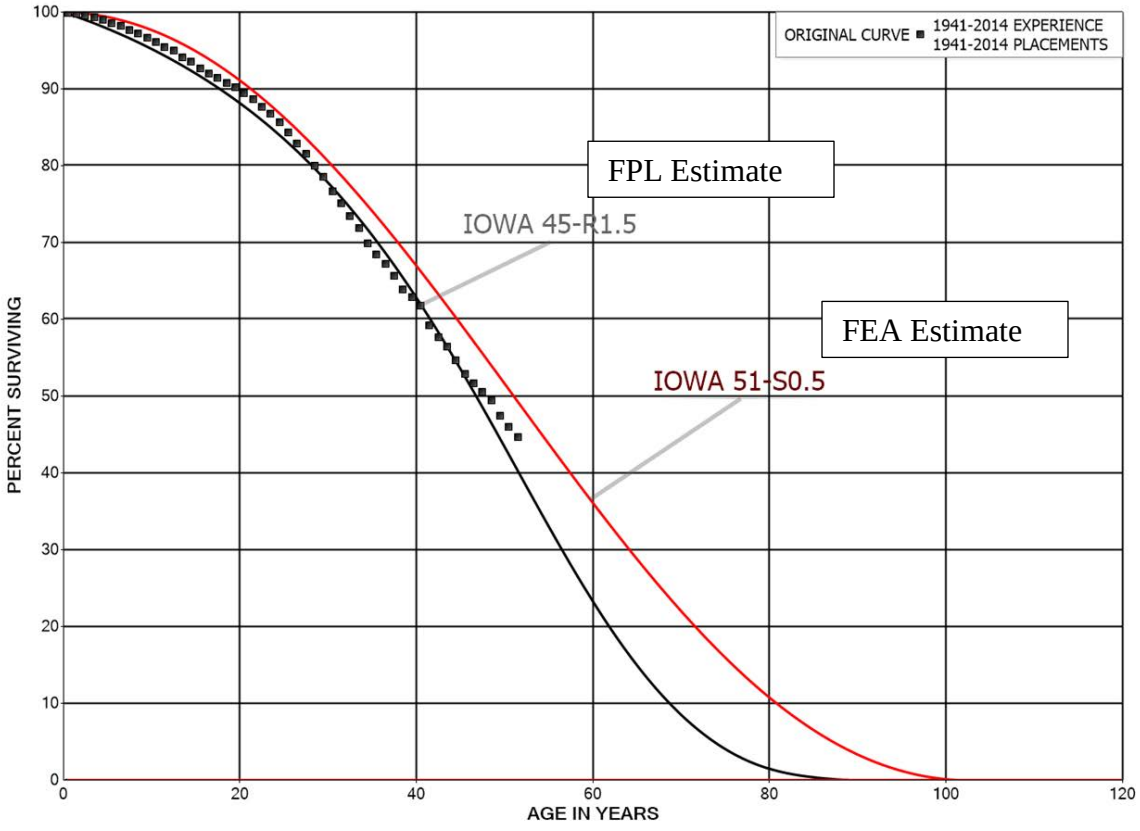
A. Yes.

i. Account 362 Station Equipment

The currently approved estimate for this account is the 43-R1.5 survivor curve. I have recommended the 45-R1.5 survivor curve, which recognizes a moderate trend in the data towards a longer service life. FEA has recommended an adjustment to the survivor curve for this account and has proposed the 51-S0.5 survivor curve. FEA witness Andrews' estimate is due in part to a change to a lower mode curve. In addition, witness Andrews's change in estimate is due to his reliance on the most recent 20 year experience band. I have addressed the issues with witness Andrews's approach in Section V.B.ii of my rebuttal testimony and will not repeat that discussion here.

Figure 11 below provides a comparison of my estimate (shown in black) and that of FEA (shown in red) with the overall band (shown as black squares). As the chart shows, FEA's estimate is a poor fit of the overall band.

Figure 1



The S0.5 survivor curve selected by FEA is not as common of a curve type as the R1.5 I have used in the 2016 Depreciation Study. Referring to the industry database provided in discovery, one can see that while S0.5 curves have occasionally been used for this account, R1.5 curves are much more common by about a 5 to 1 margin. Further, R type curves in general are far more common than S type

curves. The larger dollar assets in the account such as transformers and circuit breakers will tend to retire in the middle portion of the curve. For this reason, it is reasonable to expect an increasing level of retirements in the middle portion of the curve (say from 30 to 60 years), which is consistent with the R type curves.

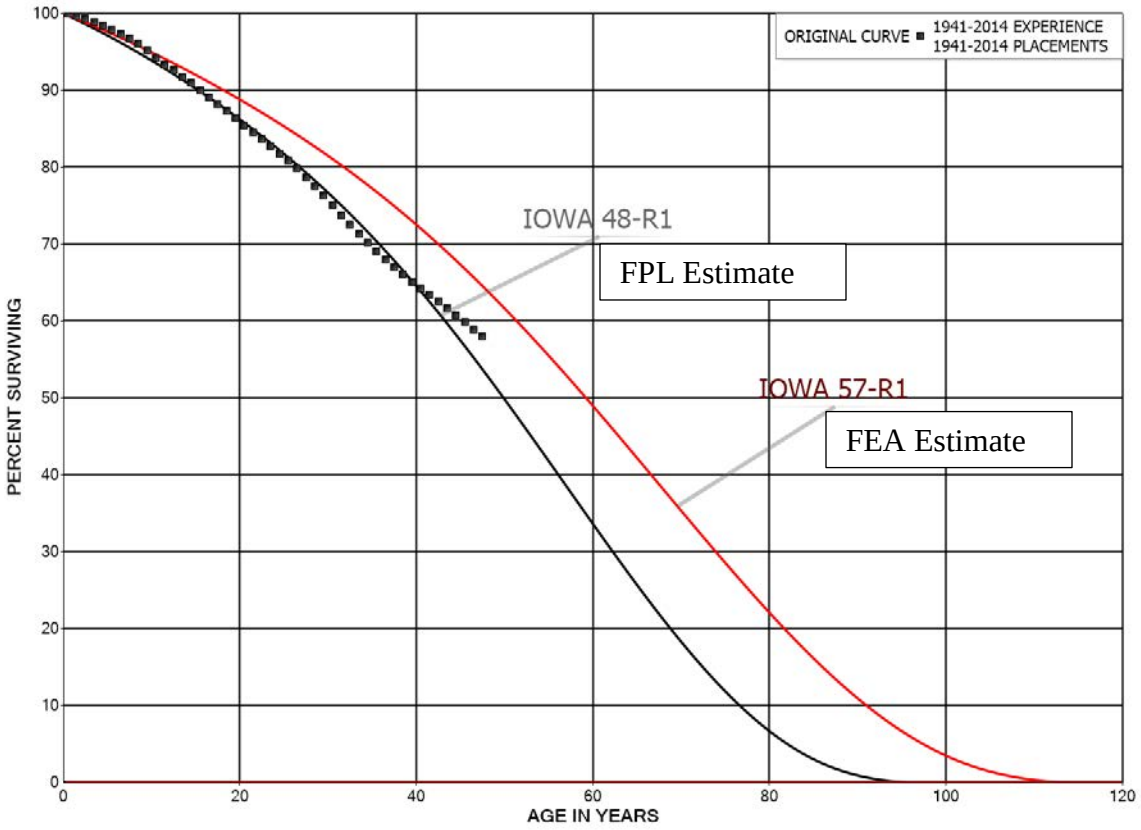
ii. Account 365 Overhead Conductors and Devices

The currently approved estimate for this account is the 41-S0 survivor curve. The historical data indicates a longer service life than the approved estimate. I have estimated the 48-R1 survivor curve, which incorporates the trend to a longer service life and represents an increase in average service life of seven years. My estimate also represents a change in the mode of the curve. The R1 curve I have selected is a good fit of the representative data points for the historical data. However, it is also more reasonable for the assets in this account. The existing S0 survivor curve projects a fairly constant level of retirements as the assets in the account age, whereas the R1 projects an increasing level of retirements with age. Given the harsh operating environment in FPL's service territory, corrosion and stress on conductor due to exposure to winds and storms should be expected to increase the probability of retirement with age. The R1 survivor curve is therefore a better representation of these forces of retirements.

FEA has proposed the 51-R1 survivor curve. FEA's estimate is an increase in average service life of ten years. I should note that FEA has proposed the same R1 type survivor curve that I have recommended. The primary basis of FEA's proposal is witness Andrews' reliance on shorter bands. I have explained the problems with his approach in Section V.B.ii of my rebuttal testimony. Witness Andrews has not provided a compelling explanation as to why to deviate from the overall band. As a result he has over-emphasized short-term experience that may not be representative of the future. Further, as I have explained on page 731 Exhibit NWA-1, while the impact of the storm hardening is unknown at the present time, it could result in a shorter life for conductor due to increased stress on wires. This provides another reason for caution in terms of both increasing the life too much and in over-relying on recent bands.

Figure 2 compares my estimate (shown in black) and FEA's estimate (shown in red) to the overall band (shown as black squares). My estimate is the better fit.

Figure 2



FEA does not provide any additional support for witness Andrews's estimate.

iii. Account 369.1 Services – Overhead

The currently approved survivor curve estimate for this account is the 48-R1 survivor curve. Consistent with the historical data and for the reasons discussed on page 743 of Exhibit NWA-1, I have recommended the 53-R1 survivor curve. FEA has recommended a 56-R1.5 survivor curve. FEA's estimate is based on the most recent 20 year experience band. I have addressed the issues with FEA's approach in Section V.B.i of my rebuttal testimony. A comparison of my estimate (shown in black) and FEA's estimate (shown in red) to the overall band is provided in Figure 21 below, which demonstrates that my estimate is a better fit of the overall band.

Figure 3