BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 080677-EI & N0. 090130-EI FLORIDA POWER & LIGHT COMPANY

IN RE: PETITION FOR RATE INCREASE BY FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY & EXHIBITS OF:

GEORGE K. HARDY

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF GEORGE K. HARDY

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AUGUST 6, 2009

Q. Please state your name and business address.

A. My name is George K. Hardy. My business address is Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida 33408-0420.

Q. Did you previously submit direct testimony in this proceeding?

A. Yes.

Q. Are you sponsoring any rebuttal exhibits in this case?

A. Yes. I am sponsoring the following exhibits, which are attached to my rebuttal testimony:

- GKH – 10, FPL Combined Cycle Asset Life Comparison
- GKH – 11, FPL Oil & Gas-Fired Steam Asset Life Comparison
- GKH – 12, FPL Coal-Fired Steam Asset Life Comparison

Q. What is the purpose of your rebuttal testimony?

A. Specifically, I will address three aspects of FPL's fossil power generation operations: plant asset lives, generating efficiency improvements, and Staff audit findings.

SUMMARY

Q. Please summarize your rebuttal testimony.

A. The several key points I wish to communicate in my rebuttal testimony are as follows:

1. The current 25, 35, and 40 year life expectations are appropriate for FPL's advanced combined cycle units, large oil and gas-fired steam units, and coal-fired steam units based on engineered plant design life, FPL's detailed engineering knowledge of the actual condition and operation of its units, FPL's distinctive outdoor, subtropical operating environment, and the operating characteristics (base load versus cycling) of the FPL fossil fleet. When compared with the average life of industry units at retirement, FPL's asset life expectations are also reasonable.
2. FPL's generating efficiency improvements from new, highly-efficient combined cycle plant additions are significant and are expected to improve FPL's operated fossil fleet net heat rate by 14% from 2002 through 2009 and by 20% from 2002 through 2014, contributing to the lower fuel usage and fuel costs for FPL's customers.
3. FPL believes that Staff's Audit Findings 1 & 5, concerning storage fees and clean up costs are better characterized as statements of fact. As I explained, the referenced facts do not affect FPL's 2010 and 2011 test year and forecasted cost estimates.

SUPPORT OF FPL WITNESSES CLARKE AND DAVIS REBUTTAL TESTIMONY ON POWER PLANT ASSET LIVES

Q. What is the purpose of your rebuttal testimony related to plant asset lives?

A. The purpose of my rebuttal testimony is to explain the basis of FPL's fossil generating asset lives based upon information, including FPL's operating experience.

Q. What is the profile of FPL's fossil generating fleet?

A. FPL's fossil fleet will consist of approximately 20,000 MW of generating capability in the summer of 2009. Since 1990, this fleet has continuously evolved from an older steam boiler fleet to a modern, fuel efficient and cleaner combined cycle fleet. This transformation was accomplished by adding new advanced combined cycle units and retiring older less-efficient units. The retired units were repowered using new advanced combustion turbine technology to meet increasing capacity needs, while significantly lowering emissions. The current technology mix consists of approximately: 10,000 MW of combined cycle, 7,000 MW of oil and gas fired steam, 1,000 MW of coal, and the balance consists of gas turbines.

FPL's fossil fleet has 79 units, accounting for 87 percent of the fossil fleet capacity, that are located outdoors, on or within 30 miles of Florida's coastline. This proximity to the harsh coastal environment adversely affects the life of FPL's generating assets.

The fossil fleet's operational mission is to serve FPL customers' base load, cycling, and peaking energy demands. This fleet has also experienced a significant increase in unit cycling over the last six years, which decrease the lives of its generating assets from increased wear and tear, compared with base load operations. Wear and tear from cycling and from actions of the elements are recognized considerations that decrease electric plant asset life.

Even with its growth, geographic location, and cycling challenges, FPL's fossil fleet continues to be an industry leader for high reliability, availability, and efficiency, with low non-fuel O&M cost (see direct testimony Exhibits GKH: 2, 5, 6, & 8).

Q. What are FPL's expected lives for each key technology type?

A. The expected asset lives are 25 years for advanced combined cycle units, 35 years for large oil/gas steam units, and 40 years for coal units.

Q. What is the basis for the expected life of these generating assets?

A. As further explained by FPL witnesses Clarke and Davis, FPL's expected fossil generating asset life is based on the design life of the plant, the engineered components contained within the plant, the environment the asset operates in, and the way the asset is operated to meet customer needs. Witness Clarke states that the life spans used by FPL are within those seen in the industry, noting however that they are on the lower end. This is not surprising to FPL because FPL's expected life of its assets is based on intimate knowledge of its plants, how they are operated to meet customers' needs, and the adverse impacts of the coastal

environment. FPL's customer base is 94% residential and commercial, resulting in a load profile of high peak loads during the day and very low loads during evening and early morning hours. This characteristic requires FPL to cycle units off at night and start units up during the day to meet this distinctive load profile. In 2008, FPL cycled (off then back on) its fossil units an estimated 5,100 times, versus less than 3,000 cycles in 2003, representing a 70% increase in total annual fossil system cycles. This increasing cycling trend is expected to continue in the upcoming years. FPL's combined cycle combustion turbines accounted for approximately 60% of the total generating fleet cycles for these periods. Cycling a plant designed for base load, while necessary to properly serve customers, will shorten the expected life of the plant.

Q. What are the expected asset lives of each of FPL's types of fossil generating units?

A. Based on the experience of FPL engineers and plant management, the expected asset lives for FPL generating units are based on the following:

a) The 25 year expected life of the combined cycle units is based on the engineered plant design life, adjusted to take into account the fact that the units are shifting from use as baseloaded units to more-heavily cycled units. The physical life of the combustion turbine is estimated to be 25 years by the manufacturer when cycled extensively, or 30 years at base operations. Based on FPL's actual and anticipated usage the asset life was established at 25 years.

b) The large gas-fired units at Martin and Manatee use a 35 year asset life because these units are also heavily cycled. The cycling consumes asset life, thus making a 35 year life more appropriate, based on their current cycling mission. Re-tasking these plants from baseload to cycling units is the right thing to do because it permits customers to receive the fuel efficiency and environmental benefits of our cleaner and more modern units, contributing to FPL's overall low cost of generation and excellent environmental performance.

Also, as part of FPL's recent fossil fleet experience, FPL has already retired six mid-sized cycling oil & gas-fired units (at Lauderdale, Ft. Myers, and Sanford sites) at 33 years of life for economic repowering benefits. These units were converted to cleaner, more-efficient combined cycle technology providing customers with lower fuel cost and emissions. Fossil fleet efficiency improvements provided from these unit conversions is included in the heat rate and emissions comparisons in my direct testimony (see Exhibits GKH 2 - 4).

c) The coal units' asset life is based on a 40 year boiler life. In the late 1990's a 30 year life was assigned to FPL's Scherer plant on the basis of damage done to boilers by burning western coal, which was hard on the equipment due to slag build-up. Since then, FPL has found ways to

manage the slag problem resulting in an increase to a 40-year economic recovery period.

For our coal units, 40 years remains a reasonable asset life due to original design expectations, and also taking into account the potential effect of future environmental regulations (i.e. CO2) on coal technology, which will tend to make the plants lives shorter than if such regulations are not enacted.

Q. How was FPL Witness Clarke of Gannett Fleming assisted with access to Fossil Power Generation information, sites, and personnel to help support his determination of plant expected asset lives?

A. FPL assisted Witness Clarke in the following manner:

- Mr. Clarke was oriented in the operation and maintenance practices of FPL's fossil plants by personnel from Power Generation's Technical Services Department and power plants.
- Mr. Clarke visited several FPL fossil plants that operate and maintain both combined cycle and steam boiler technologies.
- Mr. Clarke was provided with FPL's 2007 Integrated Resource Plan (IRP) - the basis for economic recovery dates (or probable retirement dates) of all generating units. The dates in this IRP were used in FPL's 2008 Ten Year Power Plant Site Plan submitted to the Florida Public Service Commission.

Q. Did any intervenor witness meet with FPL fossil plant personnel, to discuss the operation and maintenance practices of FPL fossil plants?

A. No. They did not meet with any FPL personnel to discuss operation and maintenance practices of FPL fossil plants.

Q. Did any intervenor witness visit any of FPL's fossil plants?

A. No. they did not visit any of FPL's fossil plants.

Q. Are the asset lives mentioned above for the combined cycle, oil and gas units, and coal units consistent with industry electric generating unit retirement data?

A. Yes. FPL researched industry data from Ventyx' Energy Velocity database for similar type retired units of at least 150 MW in size, with the following findings:

- Of the industry combined cycle units retired to date, their average age was 22 years at retirement, compared with FPL's estimated life of 25 years (see Exhibit GKH - 10).
- Of oil and gas-fired steam units retired to date, the industry average age was 37 years at retirement, compared with FPL's estimated life of 35 years (see Exhibit GKH - 11)..
- Of the coal-fired steam units retired to date, their average age was 41 years at retirement, compared with FPL's estimated life of 40 years (see Exhibit GKH - 12).

This information further supports the reasonableness of FPL's asset lives used in the Depreciation Study.

Q. Do some of FPL's units operate beyond their design life?

A. Yes. FPL's fossil fleet reliability strategy focuses on a condition-based maintenance program that identifies components that are approaching end of

design life. These components are repaired or replaced based on the risk of failure and the economic benefit to FPL customers. This approach has served FPL and its customers well as FPL's fossil fleet reliability is among the very best in the industry.

Q. Should periods longer than design life be used to establish the initial asset lives for FPL's fossil generating fleet?

A. No. It would be inappropriate to establish asset lives that are greater than their design life. This is because extending plant life beyond the design life requires "unknown levels and timing of capital additions", as stated in OPC's witness Pous direct testimony. Therefore, the design life, actual unit condition, and operating missions should remain the overall governing factors for setting asset lives. In the event that economic conditions, technological advancements, environmental regulations and other factors were to support future investments in the existing plants to prolong their lives, the condition of the plants and changes in estimated operating life resulting from those investments would be reflected in future depreciation studies. It would be incorrect to assume such longer estimated operating lives at the present time when neither such decisions nor investments have been made.

Q. Are the current 25, 35, and 40 year asset life expectations reasonable for FPL's advanced combined cycle, large oil/gas steam units, and coal units?

A. Yes, for the reasons explained above.

SUPPORT OF FPL WITNESS DEATON REBUTTAL TESTIMONY ON GENERATING EFFICIENCY (NET HEAT RATE) IMPROVEMENTS

Q. What is the purpose of your rebuttal testimony related to generating efficiency?

A. In addition to the comments of FPL witness Deaton on SFHHA's witness Kollen's testimony, the purpose of my rebuttal testimony is to explain the significance of FPL's generating efficiency improvements from new, highly-efficient combined cycle plant additions from 2002 through 2014.

Q. Has FPL's fossil fleet heat rate improved from capital investments made in new fuel efficient combined cycle technology from 2002 through 2009?

A. Yes. From 2002 through 2009, FPL will have added new fuel efficient combined cycle technology at its Sanford, Ft. Myers, Manatee, Martin, Turkey Point, and West County plant sites. The new generating capacity additions will have reduced its operated fossil fleet net heat rate (essentially, fuel consumption for electricity generated) by 14% during this period, from approximately 9,200 Btu/kWh to 7,900 Btu/kWh from 2002 through 2009.

Q. Will future capital investments from 2010 through 2014 in new fuel efficient combined cycle technology also produce fossil heat rate improvements?

A. Yes. FPL will continue to invest in new fuel efficient combined cycle technology from 2010 through 2014. The new generating capacity additions are estimated to further reduce fossil fleet net heat rate by 6% during this period, from approximately 7,900 Btu/kWh to 7,400 Btu/kWh. FPL's operated fossil fleet net

heat rate is expected to be approximately 20% more efficient in 2014 than it was in 2002.

COMMENT ON STAFF AUDIT FINDINGS

STAFF AUDIT FINDING NO. 1

Q. Please comment on Staff witness Kathy L. Welch's Audit Finding 1 with respect to "Storage Fees" as stated in her direct testimony.

A. Although called an Audit Finding, this statement is more of a statement of fact. It is true that $810,000 was booked to Account 549 - Miscellaneous Other Power Generation Expense for FPL's prorated share of the storage fee for two combustion turbines (CTs) in 2008. It is equally clear that these storage fees were made for the benefit of, and actually did benefit, FPL's customers.

Q. What is the benefit to FPL customers of paying this CT storage fee?

A. In June 2006, FPL Group had a master agreement with General Electric to purchase two 7FA combustion turbines. This agreement resulted in very favorable pricing to FPL Group which directly benefited FPL's customers. FPL has a large fleet of these combustion turbines, as does its affiliate NextEra. FPL Group purchased two CTs and elected to store them until future sites for them were determined. In the interim, the two CTs have been made available for use as critical spares for FPL and NextEra.

Because having these CT spares benefits both FPL and NextEra, storage fees are prorated between FPL and NextEra, based on the overall number of applicable 7FA turbines in each fleet. The monthly General Electric storage fee of $75,000 is allocated between FPL (60%) and NextEra (40%). FPL expensed $810,000 in 2008 for its prorated share of storage fees from July 2007 thru December 2008.

Q. Have FPL customers received a benefit from the two combustion turbines available as critical spares?

A. Yes. Components from these units have proven beneficial to have as spares. For example, during a 2007 inspection on Martin Unit 8A, FPL identified the need to replace the turbine first stage wheel. Using a rotor from one of the two shared spares reduced the Martin Unit 8A outage duration by 90 days on one of the most fuel efficient units in the FPL fossil fleet. During the 90 days following Martin Unit 8A's return to service in March 2007, the unit generated approximately 480,000 MWH of electricity at a total fuel cost of about $34 million. It is estimated that had the unit not returned to service as quickly as it did, the replacement fuel cost would have been about 20% (or $6.8 million) higher. Thus, from an FPL customer perspective, fuel savings realized on even just this one occasion shows the clear customer benefit of sharing the cost of storing the combustion turbine spares.

Q. What is the impact of the storage fee on the 2010 test year and 2011 subsequent year forecast?

A. For 2010 and 2011, $540,000 is included in each year for FPL's prorated share (60%) of the monthly $75,000 storage fee.

STAFF AUDIT FINDING NO. 5

Q. Please comment on Staff witness Kathy L. Welch's Audit Finding 5 with respect to "Oil Spill Expense" as stated in her direct testimony.

A. Again, FPL views this not so much as an audit finding, but as a statement of fact. FPL agrees that $618,673 was booked to Account 512 - Maintenance of Boiler Plant for oil cleanup at the Martin, Turkey Point fossil and Riviera plants in 2008. The work was contracted out to Southern Waste Services (SWS), an emergency response service provider.

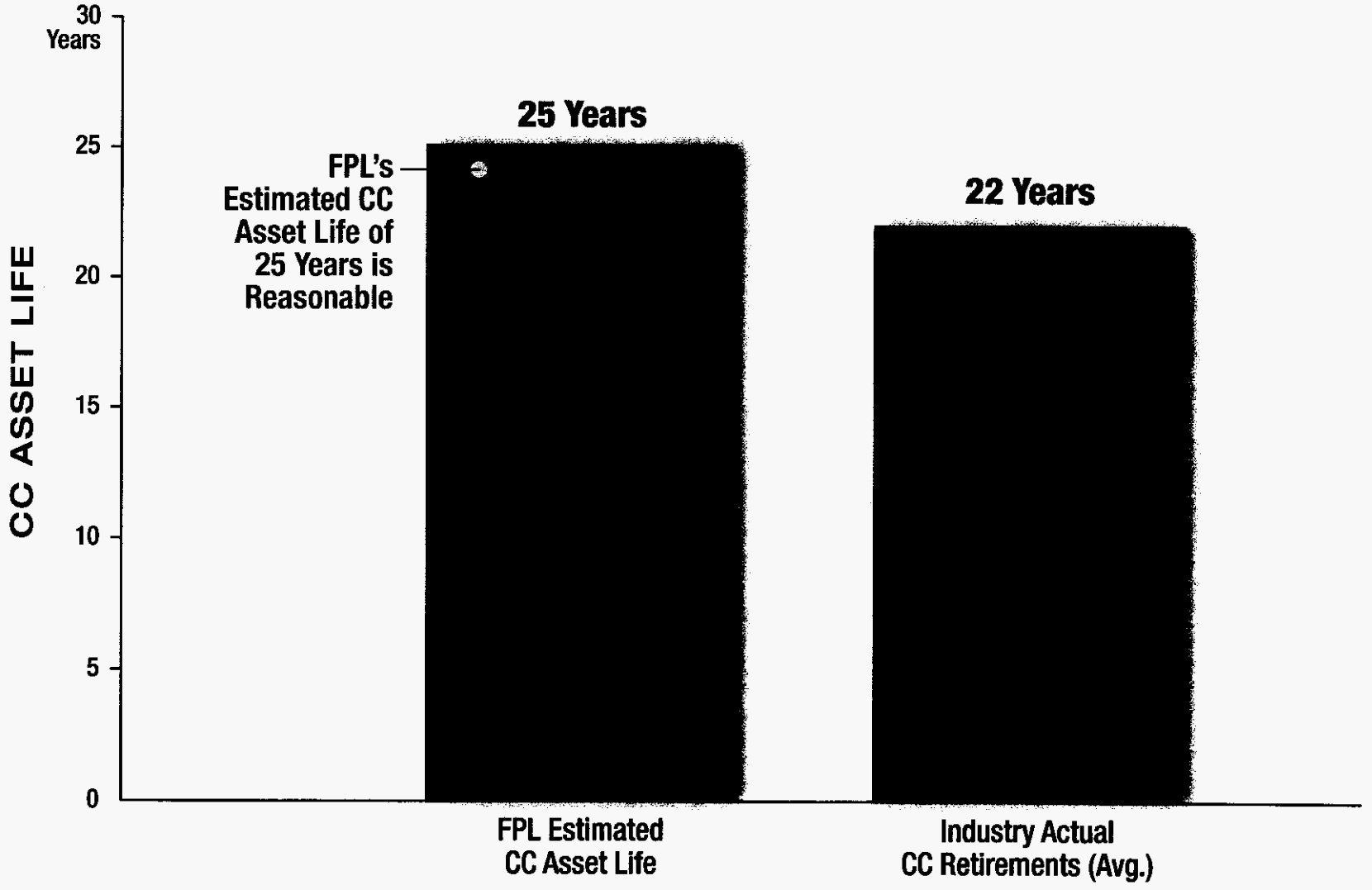
Q. Is this expense contained in FPL's 2010 test year and 2011 subsequent year forecast?

A. No. This was a 2008 expense for unplanned events. There is no such amount contained in FPL's 2010 test year and 2011 subsequent year forecast. Funding is only included for condition based maintenance to prevent this type of event.

Q. Does this conclude your rebuttal testimony?

A. Yes.

FPL Estimated Combined Cycle (CC) Technology Asset Life vs. Industry Actual CC Retirements*



** Units greater than 150MW*
Source: Ventyx - Energy Velocity Power Industry Database - North America - 2009
(Basis: 5 CC Retirements to date in North America)

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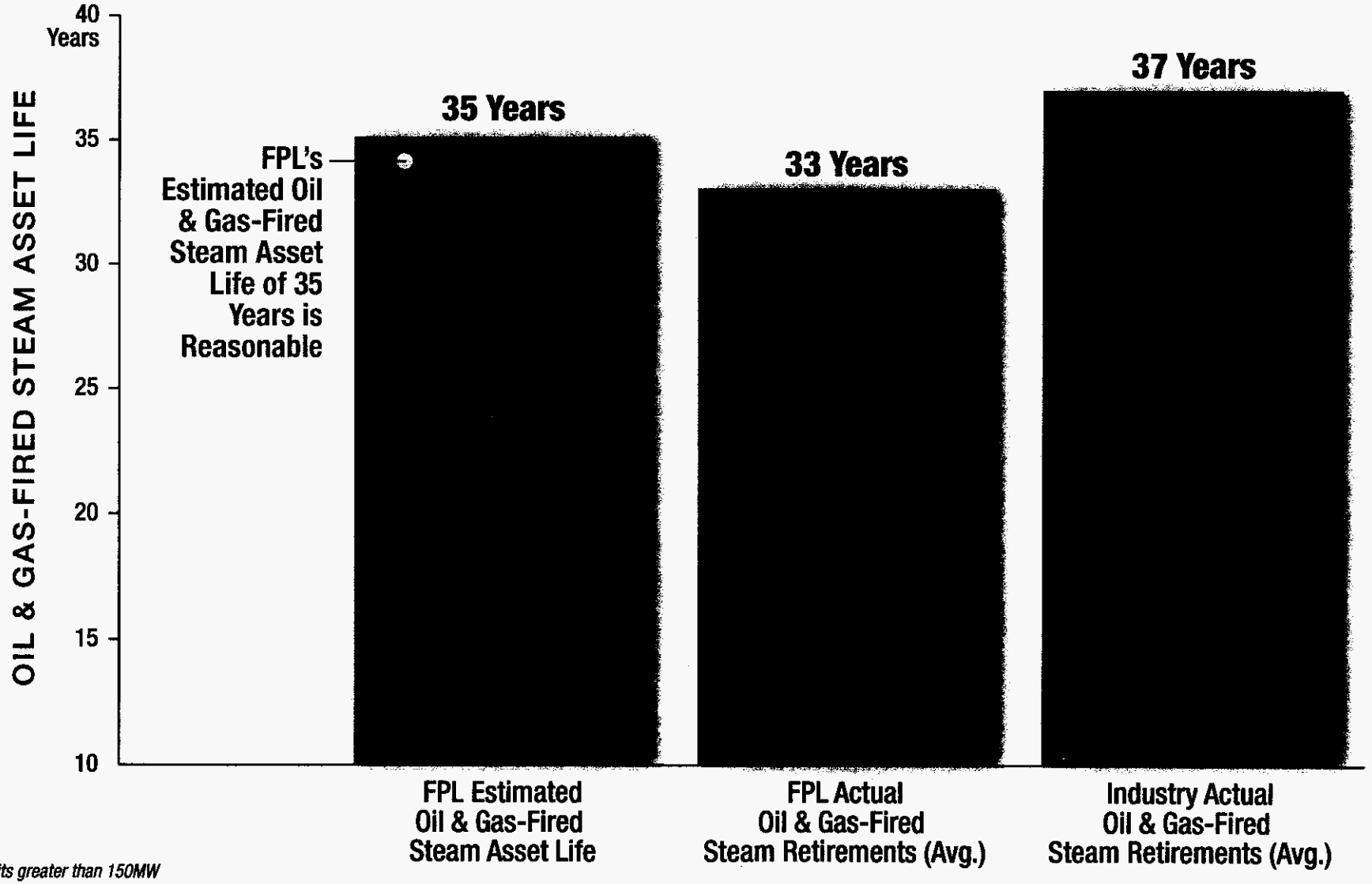
FPL Combined Cycle Asset
Life Comparison
Exhibit GKH-10, Page 1 of 1

FPL Estimated Oil & Gas-Fired Steam Technology Asset Life vs. Industry Actual Oil & Gas-Fired Steam Retirements*



** Units greater than 150MW*
Source: Ventyx - Energy Velocity Power Industry Database - North America - 2009
(Basis: 57 Oil & Gas-Fired Steam Retirements to date in North America

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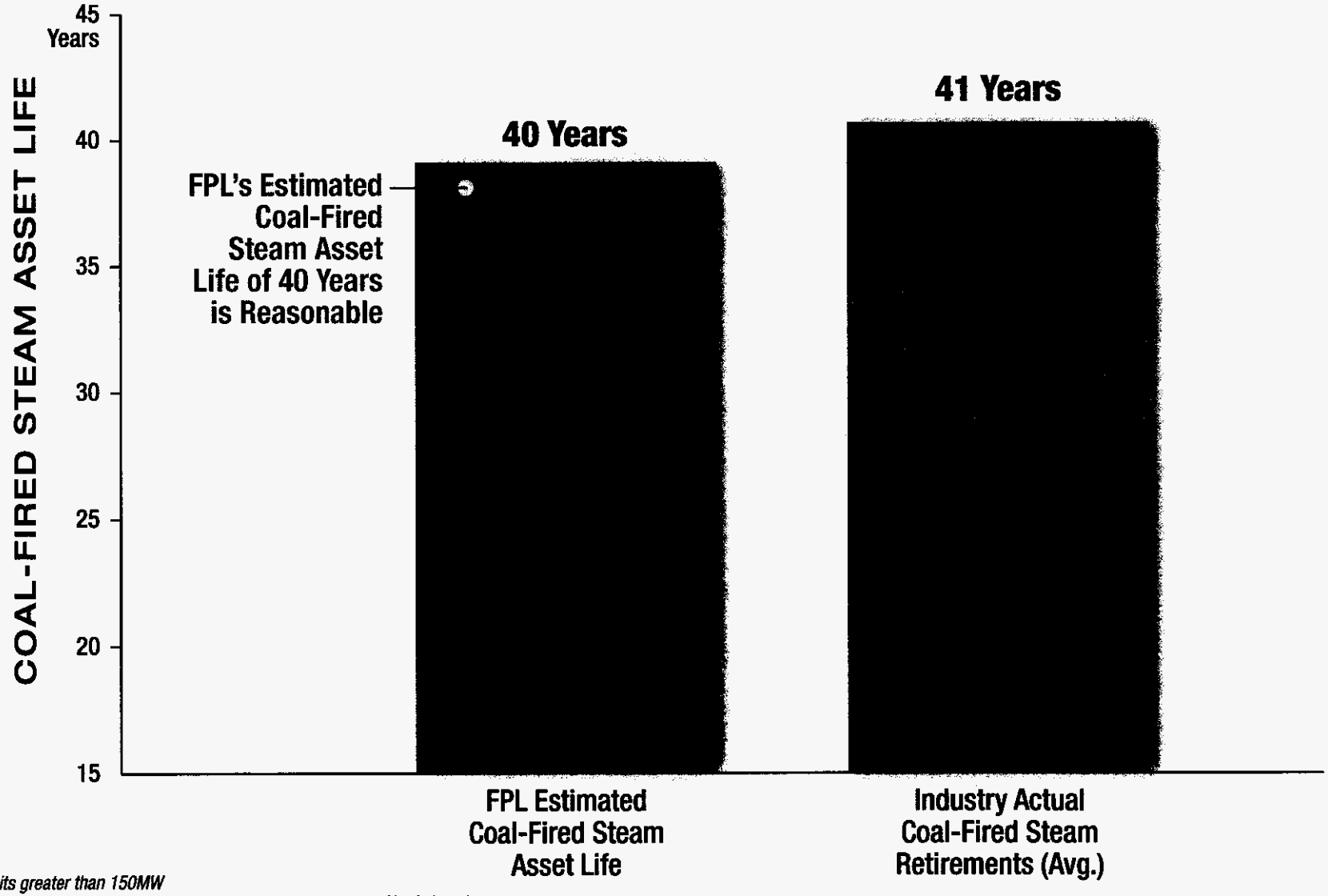
FPL Oil & Gas-Fired Steam
Asset Life Comparison
Exhibit GKH-11, Page 1 of 1

FPL Estimated Coal-Fired Steam Technology Asset Life vs. Industry Actual Coal-Fired Steam Retirements*



** Units greater than 150MW*
Source: Ventyx - Energy Velocity Power Industry Database - North America - 2009
(Basis: 22 Coal-Fired Steam Retirements to date in North America)

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FPL Coal-Fired Steam Asset Life Comparison
Exhibit GKH-12, Page 1 of 1