Progress Energy

March 7, 2012

VIA HAND DELIVERY

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

Re: *Petition for approval of revised underground residential distribution tariffs by Progress Energy Florida, Inc.;* Docket No. 110293-EI

Dear Ms. Cole:

Please find enclosed the original and five (5) copies of Progress Energy Florida, Inc.'s ("PEF") Responses to Staff's First Data Request in the above referenced docket.

Thank you for your assistance in this matter.

Sincerely,

John T. Burnett LMS

John T. Burnett

COM _____
APA _____
ECR 4+5 cd's
GCL 1+cd
AAD _____
SRC _____
ADM _____
OPC _____
CLK _____

PROGRESS ENERGY FLORIDA, INC.'S RESPONSES TO STAFF'S FIRST DATA REQUEST
Docket No. 110293-EI

1. **Please explain, in detail for each subdivision, how the NPV of operational costs between underground and overhead systems was developed. Please provide all workpapers to support the calculation. List all assumptions that go into the calculation.**

Response: The process for developing the Net Present Value of the lifecycle operational costs including storm damage (NPV Lifecycle costs) was the same for each subdivision type and is described below. The company identified all the specific work activities associated with overhead (OH) and underground (UG) distribution work. Where activities might be associated with both overhead and underground, determination of each was made based on specific materials. This included both capital and O&M activity (certain activities such as work for the public were excluded). Actual annual pole attachment revenues were subtracted from the overhead costs assuming that most overhead poles would have attachments. Expected annual storm damage from the Company's latest storm damage study was allocated to both the OH and UG costs based on our storm damage experience from the 2004 & 2005 storms. Unit costs for OH and UG costs were then calculated on a per mile basis using circuit miles of OH and UG distribution lines. These annual unit costs for 2006-2010 were then escalated to 2011 dollars per circuit mile. A 5 year average was then calculated of the 2011 unit costs for both OH and UG. This 5 year average was then escalated out for 34 years (the average service life for UG per currently approved depreciation study). These escalated values were then discounted back to 2011 dollars using an appropriate discount rate to get the NPV Lifecycle unit cost per mile of both OH and UG. For each subdivision build out, the miles of circuit mile line were determined from the drawings and multiplied by the NPV Lifecycle unit cost per mile. The assumptions included in the analysis were the 34 year life for UG lines, the annual expected storm damage (including an allocation for distribution work and further allocation to OH and UG), escalation rates from the Handy Whitman Index and the discount rate. See attached excel file for the workpapers.

2. **Please explain why, for the low density subdivisions, the NPV of life cycle operational costs increase from $131 (approved in Docket No. 080719) to $279 especially in light of the operational costs decreasing in the high density and ganged meter subdivisions.**

Response: There are a number of factors driving the change in OH vs. UG differential in the NPV Lifecycle costs. First, the NPV lifecycle costs of UG reduced more significantly than that of OH. Second, the discount rate for the NPV calculations in the 2011 analysis was 6.82% vs. 8.10% used in the 2008 analysis. This change in discount rate results in a higher NPV and as such a larger differential in the OH vs. UG NPV Lifecycle costs. Lastly

and the most impactful is the change in the miles of line described in the answer to question 5 below. For the low density subdivision, the change in the miles of line for the OH design was much greater than the change in the miles of line for the UG design.

3. **Please explain why, for the high density subdivision, the NPV of life cycle operational costs decrease from $165 to $104.**

Response: Similar to the reasons described in question 2 above, the underground NPV Lifecycle costs for UG decreased more significantly than that of OH. This results in a lower differential between OH and UG. While the Company did change the derivation of the miles of line for each subdivision design, as described in question 5 below, the % change in the OH and UG line miles for the high density subdivision design were not significantly different. Therefore the major driver of the more significant decrease is the UG NPV Lifecycle cost.

4. **Please explain why, for the ganged meters subdivision, the NPV of life cycle operational costs decrease from $158 to $89.**

Response: Similar to the reasons described in question 2 above, the underground NPV Lifecycle costs for UG decreased more significantly than that of OH. This results in a lower differential between OH and UG. While the Company did change the derivation of the miles of line for each subdivision design, as described in question 5 below, the % change in the OH and UG line miles for the high density ganged subdivision design were not significantly different. Therefore the major driver of the more significant decrease is the UG NPV Lifecycle cost.

5. **When comparing the NPV Life Cycle Costs calculations provided in Docket No. 080719-EI to the NPV Life Cycle Costs provided in this docket, the "miles of line" used to calculate the per lot differential changed substantially in all three subdivisions. Please explain the change in "miles of line".**

Response: In an effort to continuously improve the process for the NPV Lifecycle costs calculations, the Company determined that "circuit miles" as commonly quantified across the industry typically excludes distances of wire associated with service laterals, duplicate facilities in the same space or wire used in a neutral position. It is not uncommon for secondary wire and primary wire or multiple phase wire to occupy the same OH or UG space. The 2008 analysis "miles of line" were taken directly from the subdivision designs and all wire was included regardless of those items typically excluded in the determination of "circuit miles". In the 2011 analysis, we felt an improvement would be to have consistency between the line miles used to derive the unit costs per mile and the miles of line to which the unit cost would be applied. To properly exclude line miles consistent with "circuit miles" the "miles of line" for the OH

designs were determined by distance between poles (services excluded) and for UG designs miles were determined on a per trench foot basis.

6. **When comparing the NPV Life Cycle Costs provided in Docket No. 080719-EI to the NPV Life Cycle Costs provided in this docket, the 5-year average OH Unit costs (excluding storm) decreased slightly (from $3,575 to $3,262), while the UG Unit costs decreased more significantly (from $4,902 to $3,936), resulting in a decrease in the non-storm differential from -$1,327 to -$674. Please explain the larger decrease in underground non-storm operational costs than overhead non-storm operational costs.**

Response: Overall, both the overhead and underground distribution costs for the 5 year period of 2006-2010 as compared to the 5 year period of 2002-2006 are down. However, the underground costs decreased more significantly than the overhead costs. The major contributor to this larger decrease for underground was a reduction in the amount spent on the work activity for underground outage restoration and corrective maintenance repair/replacement. The difference in this activity for the two 5 year periods was a reduction of approximately $5 million per year on average.

7. **Please discuss the reasons for the change in the storm differential from $492 to $416. Has PEF updated the $21.4 million annual storm damage cost used to calculate the current storm differential?**

Response: Yes, the annual expected storm damage used to calculate the storm differential did change. The current annual expected storm damage is $20.2 million in 2008 dollars filed before the FPSC in Docket No. 090079, Exhibit SPH-1 to the testimony of Stephen Harris (page 15 of 30). This is the major driver of the change in the differential. Eighty percent (80%) of the $20.2 million is allocated to distribution and 83% of that is allocated to overhead based on the Company's actual storm experience from 2004 and 2005.

8. **The following questions refer to footnotes 4 (design and project management), 5 (management and supervision), and 6 (fleet) shown on Schedules No. 2:**

   a. **Are footnotes 4, 5, and 6 intended to replace the current footnote no. 4 (shown currently as engineering, 20% of all material and labor)?**
   b. **Provide a discussion on the costs included in footnote 4**
   c. **Provide a discussion on the costs included in footnote 5**
   d. **Provide a discussion on the costs included in footnote 6**

Response: The Company has recently implemented a new distribution work management system and as such certain changes were made to how the initial capital installation costs of OH and UG subdivision design are presented. Where costs are

included via loading factor, the loading factors have been derived from historical actual experience.

a. Footnotes 4, 5 and 7 are intended to replace previous footnote 4. Footnote 6 is a replacement for the "Fleet" line previously shown on Schedule 1, 5, and 8.
b. Footnote 4 is now comprised of only engineering. Progress Energy is currently using the following loading for engineering: 7.23% of the labor subtotals and 7.23% of the actual material cost as noted in footnote 7. The actual material is determined from those items considered to be units of property plus a loading for non-units of property (commonly referred to a "bench stock"). The bench stock loading rate is currently 3.7% of the units of property cost. Bench stock items are those typically not tracked by unit for purposes of inventory or accounting. Some examples include fuses, insulators, connectors, and conduit bends.
c. Footnote 5 separates out management and supervision costs which had previously been included with engineering costs. The current loading rate for Management and Supervision is 23.12% of labor subtotal costs.
d. Footnote 6 is a replacement for the "Fleet" line previously shown on Schedule 1, 5, and 8. The current Fleet loading rate is 17.26% of the subtotal labor costs and represents the cost of receiving and moving material from the central warehouse to the local operation centers.

9. **Please discuss the changes in costs that contributed to the increase in the charge for an underground service lateral replacing existing overhead services (tariff section 11.05) from $321 to $570. Discuss separately why removal costs of overhead service changed from $40.09 to $105 and salvage of overheard service changed from -$44.59 to -$11.**

Response: Previously PEF had a used single scenario with 2/0 underground cable coming down a pole in an open location and running 80' to an existing service point. This did not take into consideration actual activity scenarios where variations might occur in service footage, different cable sizes, or pedestal construction requirements (when an existing service is already running down the pole) or if the work locations are open or closed to truck access. For this submittal, PEF created an average of 10 different scenarios using different wire sizes and footages representing the different situations actually being constructed. The average of these costs is considerably more than the scenario we were using for previous representation. The cost for removing the old service drop was previously represented by only the cost to remove an 80 foot span of overhead wire in a location open to a truck. We previously had not captured the costs involved with a PEF vehicle setting up at each location where the ends of the service are terminated and removing the attachments. We also had not captured the higher labor costs associated with locations not open to trucks. It has been PEF experience that many of the conversions are removing old back lot service drops not open to a truck. The change in the salvage value of the overhead service is due to a

using the current method of the salvage rate applied to the overhead service cost as opposed to previously giving credit for the full remaining undepreciated value of the service drop as a salvage value. Using the salvage rate applied to the original installed overhead service cost will be more accurate over the range of service lives rather than making a one-time assumption of remaining service life.

10. **Please discuss how PEF's labor rates are determined. Are they based on union contracts, and if so, how often are they typically re-negotiated? Are there other costs, such as vehicles, or other miscellaneous costs, included in PEF's labor rate?**

Response: PEF labor rates are based upon actual labor costs negotiated in bargaining unit contracts and include benefits. Contracts are typically negotiated every 2 to 3 years. The current union labor contract in effect is a 1 year extension/revision to the contract signed and applicable for the period of Dec 2008-Dec 2011. Other miscellaneous costs are not included in the labor rate other than benefits. Such other costs are typically included elsewhere such as fleet, engineering and supervision loadings.

11. **Please explain how PEF obtains 3rd party contractors.**

Response: Progress Energy uses a competitive bidding process to select 3rd party contractors. Typically contracts are renegotiated annually. The selection decision is based upon pricing, availability, efficiency, and quality of work. PEF also considers minority owned businesses in a favorable fashion. Contractors are hired on a regional basis rather than Company wide to allow smaller firms to compete locally. However, the same contractor may be selected to cover more than one region. Contractors are paid on a per work unit basis.

12. **What percentage of underground residential distribution construction is performed by 3rd party contractors?**

Response: Underground contractors for PEF are typically used to install PEF supplied underground cable and related secondary pedestals. This work accounts for an average of 35% to 40% of the labor on an underground job. Cost estimates include average contractor costs for work that is typically performed by 3rd party contractors.

13. **Exhibit D explains that PEF has continued to see an increase in material and labor costs. Please provide a discussion on the drivers of the increases for both overhead and underground material and labor costs.**

Response: PEF's labor rates have typically risen at rates of 2.5%-3.5% over the last several years. This increase is consistent with inflation rates such that pay rates are

keeping up with cost of living increases. Material costs have fluctuated based upon the commodities market. Over the period of 2008 to 2011, underground 1/0 primary cable increased in cost by 12% while our overhead primary wire pricing has decreased by 30%. (Underground cable has a copper housing.) Over the same time period, our pole mounted transformers have increased in cost by 20% while the equivalent pad mount transformers have increased by only 6%. While this disparity did help reduce the differential between overhead and underground designs, it did increase total cost for both designs.

14. **Exhibit D states that the increase in material and labor costs appear to have been relatively equal for both overhead and underground, and the impact on the differential is not highly significant. That seems true for the high density subdivision (as seen on Schedule No. 1), however, Schedule Nos. 5, and 8, with respect to the differential in material costs, show that for the high density and the ganged subdivisions, the increase in underground material costs is greater than the increase in overhead material costs, resulting in an increase in the material costs differential. Please explain.**

Response: To be consistent with current actual construction design standards, the underground Low Density subdivision had a redesign which reduced the amount of underground cable as compared to the previous design. This held the differential stable even though there has been a higher increase in underground material costs as compared to overhead. The High Density gang base underground design was consistent with current actual construction design and therefore was not redesigned. For consistency with current actual construction design standards, both the overhead and underground high density single service subdivisions were also redesigned. Since these were both redesigned, cost components were optimized in both designs. As a result, no material changes in construction designs are driving significant differences in the cost differentials. Therefore, the increased underground material costs are the major driver in the higher differential.

15. **Exhibit D explains that the underground design for both the high- and low-density subdivisions were redesigned to help reduce costs. Please discuss and explain the design changes and their impact on costs.**

Response: The overhead design of the low density subdivision met our current design standards and is considered optimally designed. Therefore, it was not necessary to redesign. However, the underground cable in the underground design for the low density subdivision was underutilized based upon current design standards. A new design was done which eliminated one entire primary loop of cable. Some secondary cable sizes were reduced in conductor size based on transformer position adjustments. This resulted in a low density underground subdivision design with fewer materials required which was offset by overall higher UG material unit costs. The high density

overhead and underground were redesigned to meet current PEF construction standards. The existing overhead and underground designs utilized back lot construction. Our current construction standard is front lot construction. These redesigns both resulted in higher costs for OH and UG based on additional materials being required. These increases were consistent in both designs and the major driver of the increase in the differential is the higher increase in UG material unit costs.