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December 21, 2015

**VIA: ELECTRONIC FILING**

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

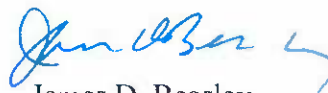
Re: Docket No. 150223-EI – Petition for approval of new environmental program for cost recovery through Environmental Cost Recovery Clause, by Tampa Electric Company

Dear Ms. Stauffer:

Attached for filing in the above docket is Tampa Electric Company's Responses to Staff's First Data Request (Nos. 1-11) dated November 19, 2015.

Thank you for your assistance in connection with this matter.

Sincerely,



James D. Beasley

JDB/pp  
Attachment

cc: Leslie Ames

**TAMPA ELECTRIC COMPANY  
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The following questions pertain to page 2, paragraph 4, of TECO's Petition:

1. TECO stated that activities related to the CCR Rule's requirements will cause TECO to "incur incremental O&M expenses beginning in the fourth quarter of 2015 and continuing for the remaining operational life of Big Bend Station." Please provide an estimate of the amounts of expenditures that TECO expects to be of a recurring nature, including a description of each expense.

A. The effective date for the CCR rule was October 19, 2015. The CCR rule includes operating requirements:

- 1) Air criteria –Fugitive Emissions Dust Control Plans required to control CCR from becoming airborne;
- 2) Run-on and run-off controls for landfills to minimize the amount of water entering the unit and help protect against releases to surface waters;
- 3) Safe handling of flood flows to prevent overtopping of CCR units;
- 4) Inspections of surface impoundments and berms to ensure they are in good condition;
- 5) Regular mowing of berm vegetation.

All of the aforementioned compliance activities are already underway at Big Bend Station for regulated surface impoundments. Engineering evaluations, groundwater monitoring and other compliance demonstrations for operational surface impoundments are being phased in over a 42-month period which began on the effective date and will occur in 2016. Some of these evaluations are also repeated on a five-year recurring basis for the life of the CCR unit. The following table provides details and estimates for these expenditures.

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<b>TAMPA ELECTRIC BIG BEND STATION COAL COMBUSTION RESIDUALS (CCR) RULE RECURRING EXPENSES</b>					
<b>YEAR</b>	<b>Compliance Demonstrations</b>	<b>Expenses (\$)</b>	<b>Annual Operating Requirements</b>	<b>Expenses (\$)</b>	<b>Annual O&amp;M Total</b>
2015	None	\$0	Inspections, Dust Control, CCR Unit Maintenance, Website Maintenance	\$75,000	\$75,000
2016	Safety Factor Analysis <sup>1</sup> , Groundwater Monitoring Plan & Well Installation, structural stability <sup>1</sup> , Liner Demonstration	\$250,000	Inspections, Dust Control, CCR Unit Maintenance, Website Maintenance	\$150,000	\$400,000
2017	Groundwater Monitoring & Data Analysis <sup>2</sup>	\$100,000	Inspections, Dust Control, CCR Unit Maintenance, Website Maintenance	\$250,000	\$350,000
2018	Location Restrictions Demonstration, Groundwater & Data Analysis	\$250,000	Inspections, Dust Control, CCR Unit Maintenance, Website Maintenance	\$250,000	\$500,000
2019	Groundwater Monitoring & Data Analysis <sup>3</sup>	\$200,000	Inspections, Dust Control, CCR Unit Maintenance, Website Maintenance	\$250,000	\$450,000

(1) Repeat every five years.

(2) Groundwater Protection Standards Analysis begins 4th quarter

(3) Initial assessment monitoring compliance demonstration deadline.

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- 2.** TECO stated that “In 2015 and 2016, CCR Rule compliance activities at Big Bend Station will include... increasing the frequency of inspections...” Please provide a list of costs incurred in the previous 4 quarters, along with a description of each amount, for inspections at Big Bend Station related to the CCR Rule.
  - A.** In 2012, Tampa Electric implemented a voluntary berm and pond inspection program that calls for quarterly and annual inspections. The costs incurred for these inspections and reports for the previous four quarters total approximately \$10,000. However, the CCR Rule also requires weekly inspections and monthly instrumentation inspections by a qualified person at the facility and a comprehensive annual inspection and report by a P.E. detailing the condition and safety of each berm inspected. Tampa Electric estimates that the incremental costs for these inspections and activities will total approximately \$25,000 per year.

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3. TECO indicated that “CCR Rule compliance activities at Big Bend Station will include placing fugitive emissions dust control plans in place.”
- a. What are the “fugitive emissions dust control plans?”
  - b. Please identify who, TECO or its consultants, are/will develop these plans.
  - c. Please explain whether these plans require the approval of the Department of Environmental Protection or any other governmental agency.
  - d. Please provide TECO’s estimates of the annual O&M costs associated with this specific compliance activity for 2015, 2016, and 2017, respectively.
  - e. Has any part of the costs discussed in Question No. 3.d. been included in TECO’s 2016 ECRC projection schedules filed on August 31, 2015, in Docket No. 150007-EI? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
- A.
- a. The Fugitive Emissions Dust Control plan for Big Bend Station is a set of procedures to minimize the generation of airborne dust from all of the CCR management units at Big Bend Station. As required by the CCR Rule, the plan also contains procedures for documenting complaints about fugitive dust and requires an annual report of all actions taken in response to any complaints. The plan has been posted to the company website in accordance with the rule’s requirements.
  - b. The plan was developed by Tampa Electric.
  - c. The Fugitive Emission Dust Control plan follows the guidelines established in the CCR Rule. However, the plan does not require approval by a governmental agency as the rule is self-implementing, currently enforceable by means of citizen suits.
  - d. The annual O&M costs associated with implementation of the Fugitive Emission Dust Control plan are estimated at approximately \$50,000 per year and are included in the costs provided in the company’s response to Staff’s First Data Request, No. 1, above.

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- e. No, these costs were not included in the company's 2016 ECRC projection schedules filed on August 31, 2015, in Docket No. 150007-EI. Although the CCR rule was published on April 17, 2015, prior to Tampa Electric's submittal of the projection schedules, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.

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4. TECO indicated that its planned compliance activities at Big Bend Station include installing new groundwater monitoring wells at regulated CCR management units.
- a. Please explain how many monitoring wells will be installed in total from 2015 – 2017.
  - b. Please identify how many such wells will be installed in 2015, 2016 and 2017, respectively.
  - c. Please identify each of the regulated CCR management units at Big Bend Station.
  - d. Please identify how many monitoring wells will be installed for each unit identified in Question No. 4.c.
  - e. Please provide the estimates of the annual O&M costs associated with this specific compliance activity for 2015, 2016 and 2017, respectively.
  - f. Has any part of the costs discussed in Question No. 4.e. been included in TECO's 2016 ECRC projection schedules? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
- A. a. The CCR Rule requires the development of a groundwater monitoring plan that “accurately represents the quality of groundwater passing the waste boundary of the CCR unit” and that the “downgradient wells must be installed at the waste boundary to ensure detection of groundwater contamination in the uppermost aquifer.” Tampa Electric will contract with a hydrogeologic consultant, who will perform a lithologic study and water quality and contour mapping on the site to determine the proper number and placement of wells to accomplish this requirement. It is anticipated that a minimum of 6 -12 core samples will be collected and piezometers installed at these boring locations to allow for the lithologic analyses and water measurements, which will be used to characterize groundwater quality and flow characteristics in the vicinity of the regulated units. If definitive results are obtained from the soil and water analyses, permanent monitoring wells will be installed at the same locations to allow for the ongoing groundwater monitoring program required by the rule. This would result in a combined total of 12 new CCR monitoring wells, all of which will be installed in 2016. However,

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the final monitoring well total and locations will be determined by Tampa Electric's contract hydrogeologist and the complete groundwater monitoring plan, including these wells, will be certified by a Qualified Professional Engineer ("QPE").

- b. All of the monitoring wells will be installed in 2016.
- c. There are three regulated and two potentially regulated CCR management units at Big Bend Station. The first two regulated units are the East Coalfield Stormwater Pond (formerly slag settling pond) and the South Economizer Ash Pond, both of which are defined as "inactive impoundments" under the rule. At the time of Tampa Electric's CCR petition filing, the regulatory status of the South Economizer Ash Pond as an inactive pond was undetermined. Upon further analysis of the characteristics of the unit, it was determined that the pond fits the inactive pond definition. Tampa Electric will close both of these inactive units prior to the regulatory deadline of April 17, 2018. The estimated cost for closure of the South Economizer Pond will be developed in 2016 by Tampa Electric's contract engineer. The company will provide updated project costs in its recurring ECRC filings to the Commission regarding these additional expenses. The third regulated unit is the North Economizer Ash Pond, which is a currently operational surface impoundment utilized for the disposal of ash from Big Bend Unit 4.

The two potentially regulated units are the North and South Bottom Ash Ponds, which receive bottom ash, *i.e.* slag, from Big Bend Unit 4. The regulatory status of these two units is undetermined at this time pending further discussion with EPA regarding their operation for purposes of beneficial use only, and not for disposal of CCRs.

- d. As stated above, Tampa intends to close the two inactive impoundments by April 17, 2018. Therefore, under the rule's provisions for inactive impoundments, no additional monitoring wells will be required for these units and they will be unregulated under this rule after cleanout/closure. For the regulated North Economizer Ash Pond, six additional wells will be required to adequately address the rule requirements for the detection and characterization of upgradient and downgradient groundwater quality and setting final compliance limits for listed constituents.

Since the North and South Bottom Ash Ponds are operated in tandem for the reclaiming and beneficial reuse of bottom ash, it is anticipated that



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an equal number of wells will be adequate for monitoring compliance for these two units. However, at this time, the regulatory status of these two units is undetermined and will be necessary to determine whether or not to move forward with the enhanced groundwater monitoring and compliance with the other operating requirements of the rule. This could result in adjustments to the costs provided in the company's response to Staff's First Data Request, No. 1. Tampa Electric expects to conclude its evaluation of the status of this unit in the first quarter of 2016.

- e. Tampa Electric does not expect to begin development of the groundwater monitoring plan and well installation activities until 2016. In 2016, related expenses are expected to total approximately \$150,000. During 2017, groundwater monitoring and data analysis will continue, with associated costs totaling approximately \$100,000. In 2018, the company will complete initial data, analysis and issue a final report by April 17, 2018 to define the groundwater protection standards for the regulated units, unless ongoing data analysis verifies an exceedance of these standards prior to that date. In that case, Tampa Electric would cease monitoring and initiate closure activities in accordance with rule requirements for closure of operational units.
- f. No, these costs were not included in the company's 2016 ECRC projection schedules. Although the rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates. However, as noted in the company's response to subpart d above, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.

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- 5.** Please refer to page 2, paragraph 5 of the petition:
- a. Please identify how many regulated surface impoundments are there at Big Bend Station.
  - b. Please explain how many engineering evaluations are expected to be performed.
  - c. Please identify who, TECO or its consultants, will perform these evaluations.
  - d. Does TECO expect to perform all the evaluations in 2016? Please explain.
  - e. Please provide the projected total O&M costs associated with these compliance activities.
  - f. Are the projected total O&M costs described in Question 5.e. the same as what TECO identified for project 2 in the table on page 4 of the petition? If not, please provide explanation.
  - g. Have the costs discussed in Question No. 5.e. been included in TECO's 2016 ECRC projection schedules? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
- A.** a. As described in the company's response to Staff's First Data Request No. 4, subpart c, there are five potentially regulated surface impoundments at Big Bend Station.

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b. The following evaluations are required for the regulated units:

Date Required	Evaluation	Completed By
October 17, 2016	History of Construction	Tampa Electric
	Hazard potential classification*	Tampa Electric
	Structural stability assessment*	Consultant
	Safety factor assessment*	Consultant
	Document if unit is lined or unlined	Consultant
	Prepare closure and post closure plan	Consultant
	Develop groundwater monitoring plan	Consultant
April 17, 2017	Prepare Emergency Action Plan	Tampa Electric
October 17, 2018	Location Restrictions Demonstration	Consultant

\*Repeated Every Five Years

- c. The requested information is provided in the company's response to subpart b, above.
- d. The requested information regarding the deadlines by which these activities must be provided, and Tampa Electric's plan to comply with those deadlines, is provided in the company's response to subpart b, above.
- e. The requested information is provided in response to Staff's First Data Request No. 1.
- f. Yes.
- g. No, these costs were not included in the company's 2016 ECRC projection schedules. Although the CCR rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.

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6. Please refer to page 2, paragraph 6 of the petition:
- a. TECO stated that “[o]ther engineering efforts will be required to evaluate alternatives for design of new or modified facilities to ensure future compliance with the CCR Rule.” Please describe the engineering efforts referenced.
  - b. Please define the “facilities” referenced.
  - c. Please identify, respectively, all the new facilities and modified facilities referenced.
  - d. TECO indicates that the compliance efforts of evaluating alternatives for design will begin in early 2016. Please identify when such efforts are expected to be completed.
  - e. Please provide the estimate of the O&M costs associated with such compliance efforts in 2016.
  - f. Have the costs identified in Question No. 6.e. been included in the Table on page 4 of TECO’s petition? If your response is affirmative, please identify the project number in the table in which such costs are included. If your response is negative, please explain why not.
  - g. Have the costs discussed in Question No. 6.e. been included in TECO’s 2016 ECRC projection schedules? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
  - h. After each design evaluation of modified facilities being completed, will the actual facility modification project be implemented? Please explain.
  - i. If your response to Question No. 6.g. is affirmative, please explain when TECO plans to notify the Commission before it commences the modification project.
- A. a. The referenced engineering efforts are dependent on the results of the safety factor assessments, location restriction demonstrations and groundwater monitoring compliance demonstrations listed in the company’s response to Staff’s First Data Request No. 1 and described in the company’s response to Data Request No. 5, subpart b.

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The first of these compliance milestones to occur is the Safety Factor Assessment. Currently, Tampa Electric has no reason to believe that any of the impoundments at Big Bend Station would fail the test criteria, they are nevertheless quite detailed and extensive. If there is a confirmed failure of any of the five separate safety factors, which are calculated under various loading and geologic conditions, then the rule requires the management unit to cease receiving CCRs within six months and initiate closure. Therefore, closure planning and engineering would begin in 2017. Detailed closure and retrofit plans and schedules would be required from an engineer to allow actual construction work to begin within two years, as required by the rule.

The groundwater compliance demonstrations required by the rule could also trigger closure requirements at any time if it is statistically confirmed that established groundwater protection criteria are exceeded by a regulated surface impoundment. In order to meet the rule's schedule for making a final groundwater compliance determination, monitoring wells must be installed and monitoring initiated in 2016. While the rule allows utilities until April 17, 2018 to establish a complete set of groundwater protection standards for a regulated unit, it is possible that a compliance determination could be made at any time in the interim, based on previously collected data. Tampa Electric will consult with its contract hydrogeologist, who will assess groundwater data as it becomes available to determine whether a determination of compliance for a regulated unit can be statistically validated. If a failure of an established groundwater protection standard is confirmed, then the rule requires that the regulated unit cease receiving CCRs and that the company must initiate closure and evaluate retrofit or replacement alternatives, including detailed planning, scheduling and engineering for the projects. Actual construction work would be required to begin within two years. Based on Tampa Electric's current understanding of the statistical data validation requirements of the rule, initiation of closure activities and detailed engineering for management unit retrofit or replacement projects would likely begin in 2017. Therefore, the company would obtain engineering bids and construction estimates to enable it to submit projected costs for engineering and closure of its regulated units in 2016.

- b. The referenced facilities are listed below:

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- Economizer Ash Management Unit(s) - New Impoundment(s) or Dewatering Bins with Dry storage
  - Bottom Ash Management Unit(s) – New Impoundment(s) or Dewatering Bins with Dry storage
- c. The requested information is provided in the company's response subpart b, above.
- d. These engineering efforts will be completed in 2016 for the North Economizer Ash Pond project and in 2017 for the Bottom Ash System, if determined to be necessary.
- e. The estimated O&M costs referenced in the company's petition are \$300,000, annually, in both 2016 and 2017.
- f. Yes, the engineering projections are provided in Line 5 of the table.
- g. No, these costs were not included in the company's 2016 ECRC projection schedules. Although the CCR rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.
- h. Yes, if the study and testing components determine that the work is needed. As explained in the company's response to subpart a, above, initiation of a closure and retrofit or replacement project for the regulated units would most likely be triggered by the results of the groundwater monitoring initiated in 2016, or by the safety factor assessments due on October 17, 2016. The units could operate under the rule for a maximum of four years after triggering closure. Tampa Electric would seek to begin the North Economizer Ash closure and retrofit/replacement project as early as possible in 2017.

The regulatory status of the Bottom Ash System as a beneficial use management unit remains uncertain at this time. Therefore, a closure and retrofit project for this system would first be contingent on a final determination of its coverage under the rule, and upon becoming

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regulated, the results of the required compliance demonstrations. Also, as an operational beneficial use management unit, Tampa Electric would require more time to make alternative arrangements for storage and continued beneficial reuse of bottom ash. Therefore, this project would likely commence in 2018 or 2019.

Tampa Electric expects to make a decision regarding the Economizer Ash project no later than April 2016 and will notify the Commission of its intent to commence detailed engineering once that determination is made. Based on the ongoing discussions of the regulatory status of the Bottom Ash System as a beneficial use unit, as well as special requirements for its continued operation, a decision regarding closure likely will not occur until 2017. The Commission will be notified of the company's intent regarding the Bottom Ash System once the decision is made. This decision is expected in the first quarter of 2016.

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7. Please refer to page 3, paragraph 7.(a) of the petition:
- a. Please identify what entity, TECO or its contractors, will carry on the project of residual slag removal and liner installation.
  - b. Please identify the expected O&M costs and the capital costs associated with these compliance activities for 2016 and 2017, respectively.
  - c. Are the costs identified in Question 7.b. the same as what TECO identified for project 3 in the table on page 4 of its petition? If not, please provide explanation.
  - d. Has any part of the costs discussed in Question No. 7.b. been included in TECO's 2016 ECRC projection schedules? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
- A.
- a. Contractors would perform this work.
  - b. Tampa Electric estimates the O&M costs to be \$1,300,000 in 2016 for removal and disposal of the remaining CCRs in the pond and \$200,000 in 2017 for final testing and certification of the completion of the cleanout. These expenses were improperly identified as being capital in the line item for project 3. The capital expenses are estimated to be \$200,000 in 2016 for engineering and \$1,300,000 in 2017 for liner installation and certification.
  - c. The total costs are the same, but they have been correctly classified in the company's response to subpart b, above.
  - d. No, these costs were not included in the company's 2016 ECRC projection schedules. Although the CCR rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.



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8. Please refer to page 3, paragraph 7.(b) of the petition:
- a. TECO stated that the North Gypsum Stackout area will need to be modified to meet the CCR Rule's requirements. Please provide an explanation of the statement, "*otherwise, the area will be regulated as a landfill.*"
  - b. Please identify what entity, TECO or its contractors, will carry on this compliance project.
  - c. Please identify the expected O&M costs and the capital costs associated with the compliance activities for 2016 and 2017, respectively.
  - d. Are the costs identified in Question 8.c. the same as what TECO identified for project 4 in the table on page 4 of its petition? If not, please provide explanation.
  - e. Has any part of the costs discussed in Question No. 8.c. been included in TECO's 2016 ECRC projection schedules? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
- A. a. The EPA has gone to great lengths in the preamble of the CCR Rule to explain that it considers any unconfined piles of CCRs to be "landfills" which are fully regulated under the rule, regardless of whether the material is subsequently beneficially used. While the North Gypsum Stackout Area is constructed with an impervious concrete bottom pad to allow for the reclaim and shipment of gypsum product, it is not fully surrounded by a containment wall to prevent wash water and rainfall runoff from reaching the ground and unlined drainage ditches in the vicinity of the unit. Even though the material is subsequently cleaned up and reclaimed for beneficial use, its temporary contact with the environment could result in the full regulation of the management unit under the rule. Therefore, improvements are necessary to bring the area into compliance as a fully contained beneficial use management unit. The improvements would consist of containment walls, a sump, pumping equipment and piping to convey gypsum laden water to the existing FGD sump at the station. (Note: Once contained in the FGD sump, this water would then be pumped to the existing Solids Separation Units for settling and removal from the system.)

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- b. Contractors would perform this work.
- c. Capital costs are estimated at \$500,000 in 2016 and 2017 and incremental O&M costs beginning in 2017 are estimated at \$50,000 per year thereafter.
- d. Yes.
- e. No, these costs were not included in the company's 2016 ECRC projection schedules filed. Although the CCR rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.

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- 9.** Please refer to page 4, paragraph 8 of the petition:
- a. Please identify all CCR units to be constructed and existing CCR units to be corrected/modified.
  - b. Please identify the expected O&M cost and the capital cost associated with the projects identified in Question No. 9.a. by CCR unit.
  - c. Are the total associated costs provided in Question 9.b. the same as what TECO identified for project 5 in the table on page 4 of its petition? If not, please provide explanation.
  - d. Have the costs discussed in Question 9.b. been included in TECO's 2016 ECRC projection? If your response is affirmative, please identify the number(s) of the corresponding schedules, page and line numbers, and dollar amounts.
  - e. Row 5 of the table on page 4 is labeled "Future Impoundment & CCR Facility Improvements (Engineering)," and includes \$300,000 in capital expense for each of the years 2016 and 2017. Please explain why the costs for engineering work, which are normally considered to be expense, are being classified as capital.
- A.**
- a.
    - i. North Economizer Ash – Closure and retrofit or replacement unit construction.
    - ii. Bottom Ash Ponds – Closure and retrofit or replacement unit construction. (Contingent on final regulatory determination)
    - iii. South Economizer Ash Pond – Close and Cap in-place.
    - iv. East Coalfield Stormwater Pond – Closure by complete removal of CCRs and retrofit with liner.
    - v. North Gypsum Stackout – Facility drainage improvements.

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- b. Costs for future projects i, ii and iii will have to be determined by performing thorough feasibility studies and engineering evaluations and will be provided to the Commission in 2016 (Project iii) and early 2017 (Projects i and ii). These costs will be provided to the Commission. Estimates were provided for projects iv and v (lines 3 and 4 in the table included in the Petition).
- c. No. The costs provided in the petition and referenced in subpart b, were the aggregate costs of engineering to determine estimated capital costs for Projects i, ii and iii.
- d. No, these costs were not included in the company's 2016 ECRC projection schedules. Although the CCR rule was published on April 17, 2015, it did not go into effect until October 19, 2015. Tampa Electric's costs remained undetermined throughout this period because EPA continued to clarify the intent and regulatory scope of many of the rule's major provisions. These further clarifications have created more certainty for purposes of Tampa Electric's cost estimates and petition filing. However, some uncertainty remains regarding Tampa Electric's and the utility industry's questions about the rule's regulatory scope and requirements.
- e. These costs were misclassified as capital and should be listed as an O&M expense.

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- 10.** Please refer to the table on page 4 of the petition.
- a. For each project, 1 – 6, please explain in detail how the associated annual project cost was derived.
  - b. For each project, 1 – 6, please provide a detailed breakdown of the component activities that comprise the estimated annual O&M costs and capital expenditures.
- A.**
- a. The information is provided by project below. All estimated costs are subject to reporting and audit requirements of the ECRC and will be trued-up to reflect actual costs.

**Project 1 - Groundwater Monitoring Plan, Inspections, Signage**

The expense for Tampa Electric's groundwater monitoring plan was based on discussions with the company's contract hydrogeologist with experience in monitoring and plan development following the requirements of the rule which occurred after the submittal of the petition. It was expected that initial site investigations and hydrologic analyses would be completed by the end of 2015. However, it now appears that all plan development and monitor well installation will be completed in 2016 at a cost of approximately \$150,000. At least four rounds of detection monitoring in all wells will also be performed annually through 2018. Tampa Electric's historical experience with groundwater monitoring at Big Bend Station was used as the basis to estimate total incremental monitoring and analytical expenses of \$75,000 in 2016. Four additional sampling events in 2017, plus final data analysis and reporting expenses, are estimated at \$100,000 based on the same information.

**Project 2 – Impoundment & Liner Investigations**

As detailed in Tampa Electric's response to Staff's First Data Request No. 1, these investigations include safety factor, structural stability and liner demonstrations. Tampa Electric has not yet obtained proposals for this work. However, the required elements for successful completion of each of these investigations are described in the preamble to the regulation and provide a good basis for evaluating the level of effort required. These criteria were used to estimate the total costs for Project 2 of the petition table.

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**Project 3 - Slag Fines Pond Closure and Lining**

The estimated costs for this project were based on the expected expenses for excavation and disposal of the quantity of slag fines believed to be contained in the pond, the costs for engineering of previous projects of similar magnitude and a recent liner project of similar size and design at Big Bend Station.

**Project 4 - North Gypsum Stackout Enhancements**

The estimated cost for this project was based on the original costs of engineering and construction of this management unit and the cost of sump, pump and piping work associated with other recent projects at Big Bend Station. These include the East and South Gypsum Storage Areas, both of which included similar facilities for containment, collection and transfer of gypsum laden runoff.

**Project 5 - Future Impoundment & CCR Facility Engineering**

These estimates were based on engineering costs for recent pond remediation and lining projects at Big Bend Station. Construction costs will be developed by the project engineer.

**Project 6 - Future Impoundment & CCR Facility Improvements**

These cost estimates will be developed by Tampa Electric's selected remediation consultant and project engineers.

- b. The requested information is provided in the company's response in subpart a, above.

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11. Please complete Table 1 below to provide the estimated residential customer bill impact resulting from all the compliance activities requested by TECO in its instant petition.

Table 1: Estimated Residential Customer Bill Impact

	¢ / 1,000 kWh	¢ / 1,200 kWh
2016		
2017		
2018		

A. Please see the table below for the estimated rate impact.

Table 1: Estimated Residential Customer Bill Impact

\$		
Year	1,000 kWh	1,200 kWh
2016	.0055	.0065
2017	.0164	.0197
2018	.0286	.0343