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January 4, 2018

VIA: ELECTRONIC FILING

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

Re: Petition for approval of a standard interconnection agreement for interconnected customer-owned battery subsystems, by Tampa Electric Company;
Docket No. 20170258-EQ


Dear Ms. Stauffer:

Attached are Tampa Electric Company's responses to Staff's First Data Request, Nos. 1-11, in the above docket.

As reflected in the company's response to Data Request No. 10, the company needs to correct a tariff sheet contained in Attachment A to the company's Petition in this docket to address a typographical error (erroneous reference to Paragraph 12a should have read Paragraph 11a). We, therefore, also attached Tariff Page Nos. 8.1165, in both clean and redline versions, marked "REVISED: JANUARY 4, 2018." This tariff was reflected in pages 4 of 16 (clean version) and 12 of 16 (redline version) of Attachment A to the company's Petition. We ask that you distribute these corrected pages to recipients of the original filing at the Commission so that they may substitute these corrected pages in place of those that accompanied the original filing.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/pp
Attachments

cc: Takira Thompson (w/attachments)

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170258-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
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1. Please provide the total current number of customer-owned and rented battery subsystems.
 - a. Provide an estimate of the projected number of customer-owned and rented battery subsystems for the next five years.

- A. Currently, Tampa Electric is aware of 73 customer-owned battery systems that are awaiting interconnection.
 - a. At this time, Tampa Electric is not able to provide an accurate estimate or projection of the number of customer-owned battery systems that will be installed in the company's service area over the next five years.

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2. Explain whether or not the batteries could be charged by solar arrays and be eligible for this tariff. If not, please explain why.
 - A. Yes, such customer-owned battery systems could be charged by solar photovoltaic (PV) arrays and be eligible for this tariff.

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3. Please explain how facilitating the interconnection of customer-owned battery subsystems will affect the Utility's electrical grid. As part of this response, discuss any foreseen negative impacts, if any, due to these interconnections.
- A. Tampa Electric expects minimal impacts to the grid from small battery systems. If the battery system is utilized by a commercial/industrial or residential customer as an Uninterruptible Power Supply ("UPS") in standby mode, the battery will have little interaction with the utility.

If the battery system is operated in parallel with Tampa Electric's electrical system, as long as the customer's interconnection complies with the applicable standards and codes and the isolation switch requirement in the interconnection agreement, Tampa Electric projects the impact from these systems to also be minimal. The use of an isolation switch is necessary to completely separate the battery system from interconnection with Tampa Electric's system for safety.

If the battery system is operated in parallel and in conjunction with a solar PV array, impacts will be similar to that of the solar PV system alone. Again, as long as the customer's interconnection complies with the applicable standards and codes and the isolation switch requirement in the interconnection agreement, Tampa Electric projects the impact from these systems to be minimal.

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4. Outline all benefits of the interconnection agreement for both the customers owning/renting battery subsystems and the general body of ratepayers as a whole.
 - A. The proposed interconnection agreement is similar in nature to the Standard Interconnection Agreements for the three tiers of Renewable Generator Systems and the Interconnection Agreement for Non-Export Parallel Operators 10 MVA or less found in Tampa Electric's tariff and provides comparable benefits to the customers owning/renting the battery subsystems and to the general body of ratepayers as a whole.

Chief among the benefits to the customers owning/renting the battery subsystems is providing the conditions under which they can interconnect their battery subsystems and operate in parallel with Tampa Electric in a safe manner. Without the proposed agreement, operation of the battery subsystem in parallel with Tampa Electric would not be permitted under the tariff.

The benefits to the general body of ratepayers of the proposed agreement is safe operations of the battery subsystems under parallel operations with Tampa Electric and swift disconnect of that parallel operation when utility electric service is interrupted to the customer. It is equally important that the proposed agreement requires operations of the customer-owned battery sub-system in a safe manner to protect Tampa Electric personnel working at or near the premises where the battery subsystem is interconnected, and emergency workers (e.g., fire, emergency management services, police) who may need to operate near or within the premises to provide rescue or protection services. All customers will likewise benefit from the requirement for a visible load break switch where, under rare but critical moments, the battery subsystem can be turned off even when it is operating after Tampa Electric utility electric service is interrupted to the customer.

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5. Please refer to paragraph 6 of the petition. Identify the “one leading supplier of such battery subsystems” mentioned.
 - A. Tesla, Inc.

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- 6.** Refer to Exhibit A, paragraph 2. Please provide examples of the “faulted conditions” mentioned therein.

- A.** A faulted condition is any abnormal condition on the utility distribution system that results in the operation of a utility protection device, such as a fuse or circuit breaker. Sometimes referred to as a “short circuit”, these faults can occur from phase to ground, phase to phase, or a combination thereof. In order to attempt to clear the fault and protect the overall electric system from potential damage, the utility device will operate, resulting in either a momentary, temporary or long duration outage. In all cases, the battery subsystem must automatically separate from the utility to cease being a source of energy for the fault. These faults occur for several reasons, such as contact with vegetation, lightning, weather, animals and vehicles.

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- 7.** Please refer to Exhibit A, paragraph 2. Provide the amount of time it will take the Utility's System Security Department to approve the protective scheme mentioned.

- A.** Tampa Electric will strive to complete the approval process within two (2) weeks of receipt of all necessary documentation from the Customer. It is expected that this time will be reduced as Tampa Electric engineers become familiar with the various battery systems customers select for their use.

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8. Refer to Exhibit A, paragraph 8. It states that the customer is responsible for damage protection from the “normal and abnormal” operations that occur on the Utility’s system in delivering and restoring system power. Besides, “normal and abnormal” operations, are there any other conditions? If so, please provide those conditions.
 - a. Provide examples of “abnormal” operations that could occur on the Utility’s system.

- A. There are no system operating conditions other than “normal” and “abnormal”. Normal operations indicate that the system is operating as designed. Either the power is on and all system parameters are within standard limits, or the system has responded properly to a fault with either a momentary, temporary, or long-term interruption.
 - a. Examples of abnormal operations include, but are not limited to: the utility system is energized, but some of the system parameters, such as voltage or frequency, are outside standard limits; the utility system fails to clear a faulted condition, or fails to automatically restore service after a temporary faulted condition; or a transient voltage condition occurs, such as caused by lightning or utility switching, and propagates to the Customer’s service via the utility system.

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9. Please refer to Exhibit A, paragraph 9. It states, "the Company will pay a one-time reimbursement for the installation of the switch not to exceed the amount listed on the Company website." Detail whether or not this means the switch installation cost can vary.

- A. Tampa Electric anticipates the cost of the switch installation will vary with each installation.

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10. Refer to Exhibit A, paragraph 11.b. The second sentence references Paragraph 12.a but paragraph 12.a does not exist. Please clarify.
 - A. The reference should have been to "11a" rather than "12a". Corrected tariff sheets in clean and redlined format are being provided with this filing.

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11. Please refer to Exhibit A, paragraph 16. An “applicable processing charge” is mentioned. Provide the amount of the processing charge.
 - a. Is there an initial processing charge for the customer upon initiation of the interconnection agreement? If so, please provide that amount.
- A.
 - a. At this time, Tampa Electric does not anticipate applying a processing charge (initial or otherwise) to the customer for processing their interconnection agreement.

REVISED TARIFF SHEET

No. 8.1165.0



ORIGINAL SHEET NO. 8.1165

Continued from Sheet No. 8.1160

10. The Company may open the switch, isolating the BAT, without prior notice to the Customer. To the extent practical, however, prior notice shall be given. If prior notice is not given, the Company shall at the time of disconnection leave a door hanger notifying the Customer that the BAT has been disconnected, including an explanation of the condition necessitating such action. The switch will be re-closed by the Company as soon as practical once the conditions causing the disconnection cease to exist. Conditions which may require the switch to be opened are:

- Company utility system emergencies or maintenance requirements.
- Hazardous conditions existing on the Company's utility system due to the operation of the Customer's BAT as determined by the Company.
- Adverse electrical effects (such as power quality problems) on the electrical equipment of the Company's other electric consumers caused by the BAT as determined by the Company.
- Failure of the Customer to maintain the required insurance for the duration of this Agreement.

11.a The Customer agrees to indemnify and hold harmless the Company, its subsidiaries and affiliates, and their respective employees, officers and directors, against any and all liability, loss, damage, cost, claims or expense, including attorney's fees, which the Company, its subsidiaries, affiliates, and their respective employees, officers and directors may hereafter incur, suffer or be required to pay by reason of negligence on the part of the Customer under the obligation of this Agreement. The Company agrees to indemnify and hold harmless the Customer, its subsidiaries and affiliates, and their respective employees, officers and directors, against any and all liability, loss, damage, cost, claims or expense, including attorney's fees, which the Customer, its subsidiaries and affiliates, and their respective employees, officers and directors may hereafter incur, suffer or be required to pay by reason of negligence on the part of the Company under the obligations of this Agreement.

b. With respect to a Customer that is the state, a state agency or subdivision (as those terms are defined in Section 768.28(2), Florida Statutes, or the successor thereto), the obligations of Customer set forth in Paragraph 12.a above shall be subject to Section 768.28, Florida Statutes, (or the successor thereto), including the limitations contained therein. With respect to a Customer that is the United States of America, or agency or subdivision thereof, the obligations set forth in the first sentence of Paragraph 11.a shall not apply. In either case, the Company reserves its rights under Section 768.28, Florida Statutes, (or the successor thereto), and the Federal Tort Claims Act (or the successor thereto), as applicable, including, but not limited to, the right to pursue legislative relief.

Continued to Sheet No. 8.1170



ORIGINAL SHEET NO. 8.1165

Continued from Sheet No. 8.1160

10. The Company may open the switch, isolating the BAT, without prior notice to the Customer. To the extent practical, however, prior notice shall be given. If prior notice is not given, the Company shall at the time of disconnection leave a door hanger notifying the Customer that the BAT has been disconnected, including an explanation of the condition necessitating such action. The switch will be re-closed by the Company as soon as practical once the conditions causing the disconnection cease to exist. Conditions which may require the switch to be opened are:

- Company utility system emergencies or maintenance requirements.
- Hazardous conditions existing on the Company's utility system due to the operation of the Customer's BAT as determined by the Company.
- Adverse electrical effects (such as power quality problems) on the electrical equipment of the Company's other electric consumers caused by the BAT as determined by the Company.
- Failure of the Customer to maintain the required insurance for the duration of this Agreement.

11.a The Customer agrees to indemnify and hold harmless the Company, its subsidiaries and affiliates, and their respective employees, officers and directors, against any and all liability, loss, damage, cost, claims or expense, including attorney's fees, which the Company, its subsidiaries, affiliates, and their respective employees, officers and directors may hereafter incur, suffer or be required to pay by reason of negligence on the part of the Customer under the obligation of this Agreement. The Company agrees to indemnify and hold harmless the Customer, its subsidiaries and affiliates, and their respective employees, officers and directors, against any and all liability, loss, damage, cost, claims or expense, including attorney's fees, which the Customer, its subsidiaries and affiliates, and their respective employees, officers and directors may hereafter incur, suffer or be required to pay by reason of negligence on the part of the Company under the obligations of this Agreement.

b. With respect to a Customer that is the state, a state agency or subdivision (as those terms are defined in Section 768.28(2), Florida Statutes, or the successor thereto), the obligations of Customer set forth in Paragraph 12.a above shall be subject to Section 768.28, Florida Statutes, (or the successor thereto), including the limitations contained therein. With respect to a Customer that is the United States of America, or agency or subdivision thereof, the obligations set forth in the first sentence of Paragraph 11.a shall not apply. In either case, the Company reserves its rights under Section 768.28, Florida Statutes, (or the successor thereto), and the Federal Tort Claims Act (or the successor thereto), as applicable, including, but not limited to, the right to pursue legislative relief.

Continued to Sheet No. 8.1170

ISSUED BY: N. G. Tower, President

DATE EFFECTIVE: