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October 8, 2020

## VIA ELECTRONIC FILING

Mr. Adam Teitzman  
Office of the Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

RE: Docket No. 20200000  
Customer-Owned Renewable Generation

Dear Mr. Teitzman:

Attached for filing in the above-captioned docket are the comments of William R. Ashburn regarding issues surrounding interconnection of customer-owned renewable generation. These comments are submitted on behalf of Tampa Electric Company, Florida Power & Light Company, Duke Energy Florida, and Gulf Power Company.

Please do not hesitate to contact me with any questions or concerns regarding these comments.

Sincerely,



Malcolm N. Means

MNM/bmp  
Attachment

# Net Metering Interconnection Issues

William Ashburn – Tampa Electric Company  
On behalf of FPL, Gulf Power, Duke Energy Florida  
And Tampa Electric Company

September 17, 2020

# Introduction

## Rule 25-6.065

- William Ashburn, Director, Pricing and Financial Analysis at Tampa Electric, presented this to the Florida Public Service Commission on September 17, 2020 at a Commission Workshop regarding customer-owned renewable generation.
- The subject of the presentation is the portion of Rule 25-6.065 that addresses the rights and responsibilities of the utility and the interconnecting customer.
- This presentation describes issues that have arisen since the rule was first put into effect, changes in the market, and changes in the interconnected equipment associated with the rule.
- Mr. Ashburn presented these issues on behalf of Tampa Electric Company, Florida Power & Light Company, Duke Energy Florida and Gulf Power Company.

# Increasing Prevalence of Necessary Equipment Upgrades

## Rule 25-6.065, Section 2

- There are increasingly common scenarios where a customer's renewable generation system is sized larger than the load equipment serving the premise, in some cases greatly exceeding the energy needs of the customer in conflict with the rule, which defines "customer-owned renewable generation systems" as "primarily" intended to offset the energy needs of the customer, and defines "net metering" as "a metering and billing methodology whereby customer-owned renewable generation is allowed to offset the customer's electricity consumption onsite." In addition, there are increasing instances where multiple systems installed on neighboring areas are interconnected into common distribution equipment.
- This increase in system capacity is occurring in part because of:
  - Increasing energy density of solar panels, as the technology improves;
  - Falling panel prices, allowing customers to afford larger systems; and
  - Sales strategies targeting specific neighborhood or streets where solar panels have already been installed on some homes and influencing neighboring customers to do the same.
- Utilities are more frequently encountering situations where the local service or transformer, and in the future even the local distribution network, require an upgrade and thus incremental payment to the utility. Contractors do not always inform the utility prior to installation of the renewable generation system, leading to delayed approval of interconnection while completion of the necessary upgrades is pending. Customers caught in this scenario are frustrated by the delay before they can interconnect and receive benefit, plus the upgrade payment can be a surprise if not included in their budget.
- There is no explicit rule language that addresses the impacts of subsequent system installation on the utility interconnection service or transformer which would require study and potential upgrades.

# New Types of Interconnected Equipment

## Rule 25-6.065, Sections 2a and 2d

- The rule was put into place before the development of commercially available battery equipment that can be interconnected independently or in conjunction with renewable generation.
- The rule was put into place assuming that all inverters would immediately cease operation of the renewable generation when the power delivery to the utility meter stopped. Since that time, some inverters have been developed that can continue to operate in an islanding mode when the utility service ceases. The commitments made at the time the rule was put into place that all inverters would not island was a major factor in some of the exemptions put on Tier 1 especially.

# Synch Interconnection Requirements in Rule with Current IEEE Standards

## Rule 25-6.065, Section 3

- Subsection (3) of the Rule requires utilities to submit a Standard Interconnection Agreement that complies with IEEE 1547, IEEE 1547.1 and UL 1741 standards.
- Since the rule was adopted, various changes to IEEE 1547 or UL 1741 have been codified. The rule has not been updated to refer to those. Some of these changes address “smart” inverters and include the inclusion of control settings (in particular, the ability to change the output of the inverter from kW to kVAR which may, in the future, be manageable by the utility). In addition, there are some elements of the new standards that address islanding capable inverters, which may be problematic.

# Customer Notifications and Utility Actions- System Installations, Modifications or Removals

## Rule 25-6.065, Sections 5b and 6c

- Paragraph (5)(b) requires:
  - o the customer to notify the utility 10 days prior to initially placing the customer equipment in service;
  - o the customer to submit a new application regarding any modifications to a customer-owned system that would increase the system's gross power rating.
- Customers do not always comply with these notice requirements which creates safety issues:
  - o The utility may not be aware that a customer has interconnected a renewable system to the grid. For example, system lines could remain energized during installation/construction, or post hurricane restoration, even where the utility believes they are not.
  - o If the customer increases the gross power rating of the system (*i.e.*, adds more solar panels to their system anytime after execution of the initial interconnection agreement) and does not inform the utility, the utility's distribution facilities could be damaged.
  - o The rule does not clearly address these factors and does not make clear that such a customer needs to enter into a new interconnection agreement to address the upgraded system.
- The rule does not make clear in Section 6(c) that customers who do not comply with these notifications can have their system locked out until compliance is achieved and a new agreement is executed; further, this manual lock out method is impractical with exponential growth.
- Some customers remove their system from the premises (either because they no longer want it there for some reason, or because they move and prefer to take the system with them to their new premises). When the customer of record remains unchanged, the rule does not oblige the customer to notify the utility when this occurs so the utility can change metering and update billing and other records.
- Utility actions and commitments under Section 7 were established at the time the rule was put into place. At that time, customer interest and interconnections were low and solar technology costs were high. Many factors have changed in the last decade and these requirements and the necessary workforce should be reviewed.

# Level of Insurance Requirement for Residential Customers

## Rule 25-6.065, Sections 5e

- The rule does not require customers to secure general liability insurance for Tier 1, but does require general liability insurance for Tier 2 and Tier 3, regardless of type of customer.
- Securing such insurance for residential customers under Tier 2 (no TEC residential customers take Tier 3) is a challenge (partly because of the \$1M level) and there is some concern that such insurance may not apply as insurance companies may take the position that the solar PV activity is not covered.
- The rule says insurance is required for Tier 2 and 3 but does not specify who must provide the insurance: owner, tenant or third-party.
- New types of interconnected generation equipment, including but not limited to any battery storage equipment or inverters that do not automatically shut down the generation device once utility service ceases should continue to be secured with reasonable general liability insurance.



# Lock Out Disconnect Switch

## Rule 25-6.065, Section 6

- The rule states that the utility *may* require customers to install a manual disconnect switch.
- Tier 1 systems are exempt from this requirement unless the switch is installed at the utility's expense.
- Customers do not always employ the disconnect switch, or some other method, to assure power is not flowing from their system to the interconnect point prior to interconnection. This creates a safety issue, as a system could be operating and pushing electricity into the utility-owned facilities before the system has been accepted for interconnected and is identified in the company's systems as being in operation.
- Rule does not make clear that the utility can lock out operation of the renewable generator prior to the interconnection agreement going into effect (Section 6c).
- With Tier 1 manual disconnect exemptions in place, the utility may not disconnect Tier 1 renewable generators when emergency, hazard, or adverse conditions occur per Section 6, (1), (2), and (3).