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UTAH DEPARTMENT OF COMMERCE
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Comments

To: Public Service Commission of Utah

From: Utah Division of Public Utilities

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Date: October 31, 2023

Re: **Docket No. 23-R312-01,** Investigation into Possible Amendment of Utah Admin. Code R746-312, Electrical Interconnection

The Division of Public Utilities (Division) offers the following comments to the Public Service Commission of Utah (Commission) for possible amendments to Utah Administrative Code R746-312, Electrical Interconnection. The Division's comments are guided by its statutory objectives, which include the directive to promote rules that are just, reasonable, and in the public interest.[1] The Division's proposed amendments (Attachment C) add definitions for subject matter presented throughout the rule, definitions to update the rule to modern technologies, and minor revisions to match current tariff schedules. The Division's comments and proposed revisions are not exhaustive but summarize the Division's proposed amendments to R746-312.

Issue

On September 8, 2023, the Commission issued its Notice and Request for Comments seeking comments in Docket No. 23-R312-01 for possible amendments to Utah Administrative Code R746-312, Electrical Interconnection.[2] The Commission asked that any

[1] Utah Code Annotated Section 54-4a-6, https://le.utah.gov/xcode/Title54/Chapter4A/54-4a-S6.html.
[2] Docket No. 23-R312-01, *Public Service Commission's Notice*, September 8, 2023, https://pscdocs.utah.gov/Rules/23R31201/32973023R31201narfc9-8-2023.pdf.

interested person submit comments by October 31, 2023, and reply comments by November 30, 2023.

Background

The Commission issued its Notice in Docket No. 23-R312-01 seeking comments regarding whether R746-312 should be updated to reflect aspects of the current Institute of Electrical and Electronics Engineers (IEEE) 1547-2018 interconnection standard to maximize the considerable development in smart grid technologies and invertor capabilities that have occurred since the current rule was adopted.[3]

On September 11, 2023, in correspondence to Michael Regan of the U.S. Environmental Protection Agency (EPA), the Commission pledged its support for the State of Utah's proposal to the EPA's Solar for All Program under the Greenhouse Gas Reduction Fund (EPA-R-HQ-SFA-23-01).[4] The Commission states in its support of the Solar for All Program that solar, grid, and inverter technologies have advanced significantly since the interconnection rule (R746-312) in Utah was last updated.[5] To maximize the benefits of smart inverter technologies to the grid and customers and facilitate timely interconnection, the Commission opened this review of Rule 746-312.

Discussion

The Division's understanding of the Commission's goal is to amend R746-312 to reflect developments in smart grid technologies and inverter capabilities. The Division is not aware of any timing issues with Level 1, 2, or 3 interconnection reviews at this time but finds those sections of R746-312 ponderous in application and may be in need of streamlining. However, the streamlining process should involve other parties' involvement to further explore what changes may be advisable. While the Division lacks component-level knowledge of smart grid technologies, smart inverter capabilities, and interoperability used at the customer site as found in the IEEE 1547-2018 standard, it is aware of system-level applications of these modern technologies. The Division recognizes the significance of a

[3] Docket No. 23-R312-01, *Investigation into Possible Amendment of Utah Admin. Code R746-312, Electric Interconnection,* Notice and Request for Comments, September 8, 2023, https://pscdocs.utah.gov/Rules/23R31201/32973023R31201narfc9-8-2023.pdf.
[4] *See* https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all.
[5] Docket No. 23-R312-01, *DPU Attachment A_Correspondence from the Public Service Commission to the Environmental Protection Agency, Re Solar for All Program 9-11-2023*.

timely interconnection approval process. The Division surmises that the current review process for Level 1, 2, and 3 interconnection applications, found in Administrative Code Rule R746-312-8, -9, and -10, should also be evaluated for possible improvements to promote efficient review processes but believes that process to be potentially complex and outside the scope of this notice.

The Division suggests that, to the extent possible, the work done in the recent Docket No. 23-999-09, Power Quality Rulemaking,[6] and R746-313, Electric Service Reliability, could help guide the Commission in any proposed amendments to R746-312. The Division believes that there is a correlation between smart grid and smart inverter technologies. Both can either enhance or detract from grid reliability and power quality based on the interconnection of distributed energy resources (DERs). Additionally, the Division suggests that the Commission review the National Renewable Energy Laboratory (NREL) presentation materials provided to the Cohort component of the GRID Modernization docket attached as DPU Attachment B.[7]

The Division suggests that the Commission consider IEEE Standard 1547-2018,[8] 2800-2022,[9] and Underwriter Laboratory (UL) Standard 1741[10] at least at a high level, as the basis for any proposed amendments to R746-312.[11] While the Division feels that in-depth detail of IEEE 1547, 2800, and UL1741 are not required, it concludes that it is important to reference the current versions of both standards within the construct of R746-312. Of note, Section 54-15-102(9)(b) refers to "the latest revisions of IEEE 1547, as mentioned." This

[6] *See* https://le.utah.gov/~2023/bills/static/HB0389.html.
[7] Docket No. 23-R312-01, *DPU Attachment B_21-035-16 DPU Compliance GRID Mod Rpt. NREL Cohort 7-23-23_10-31-23*.
[8] IEEE Standard 1547-2018, *IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*, https://standards.ieee.org/ieee/1547/5915/.
[9] IEEE Standard 2800-2022, *IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems*, https://standards.ieee.org/ieee/2800/10453/.
[10] UL Standard 1741, *Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources*, https://www.shopulstandards.com/ProductDetail.aspx?productId=UL1741.
[11] The Division notes that the current IEEE 1547-2018 is dated and the organization is revising its standard but has not offered notice on a release date for its revisions. Utah Code Annotated 54-15-102(9)(b) referenced in Utah Administrative Code R746-312, states "…in accordance with the latest revision of IEEE 1547 as amended".

reference and its incorporation into the rules with existing language seems to mean that the rule always refers to the most recent version.

The Division identified incongruities with interconnection fee structures during its review of R746-312 that it believes the Commission should consider.[12] The Division suggests revisions to the Level 1, 2, and 3 application fees found in Section R746-312-13. The revision to Interconnection Fees and Charges will reduce the need to change R746-312 when there are future tariff updates, specifically, Electric Service Schedule No. 137, Net Billing Service. The Division identified several terms throughout Rule 746-312 that require amending definitions and creating new defined terms to help describe the new technologies referenced in the IEEE and UL standards.

At this time, the Division is unaware of any interconnection application review delays at this time by Rocky Mountain Power (RMP) or any other electric entity not under the Commission's jurisdiction that reference R746-312. The Division's review of the current review process, which gets progressively more complex for Level 2 and 3 applications, found the current review process to be confusing with no sensible process flow. The Cohort discussions presented by NREL identifies the interconnection process across the country as a limiting factor to the adoption of DERs.[13] The Division would encourage RMP and other electric service providers that are more familiar with their application review processes to opine on this topic in reply comments and suggest a course of action to streamline the review process.

Conclusion

The Division's comments are guided by its statutory duty to act in the public interest by providing for just, reasonable, and adequate rules and regulations.[14] Electric service reliability and power quality are correlated to DER interconnection. The current service reliability rule, R746-313 and the proposed power quality rule should be considered in the amendments to R746-312. Proposed amendments to R746-312 should address the aspects of DER interconnection including smart grid technology, smart inverter technology,

[12] Docket No. 23-R312-01, *DPU Attachment C_Utah Administrative Code R746-312_DPU Amendments_10-31-23*.
[13] Docket No. 23-R312-01, *Supra* note 7.
[14] *Supra* note 1.

interoperability, and efficient application review processes found in IEEE 1547, 2800, and UL 1741. While not exhaustive, the Division offers its proposed amendments to R746-312 contained in Attachment C to make R746-312 more consistent with modern technologies. It will also reduce the need to change the rule in the future due to technology updates and other attributes that are not known at this time.

cc: Jana Saba, Rocky Mountain Power
Michele Beck, Office of Consumer Services
Service List