



## State of Utah

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## Public Service Commission

THAD LeVAR  
Chair

DAVID R. CLARK  
Commissioner

April 13, 2023

Ms. Jana Saba  
Rocky Mountain Power  
1407 West North Temple, Suite 330  
Salt Lake City, UT 84116

Re: *Rocky Mountain Power's Power Quality Report for the Period of January through December 2022*, Docket No. 23-035-05

Dear Ms. Saba,

The Public Service Commission of Utah (PSC) has reviewed Rocky Mountain Power's (RMP) inaugural power quality (PQ) report filed on February 14, 2023 for the January through December 2022 period (the "PQ Report").<sup>1</sup>

The PSC also reviewed the March 16, 2023 comments filed by each of the Division of Public Utilities (DPU) and the Utah Petroleum Association (UPA), and RMP's March 28, 2023 reply comments responding to DPU and the UPA.

DPU explains the PQ Report addresses system faults that result in system voltage sags from various causes including equipment failure, and that most manufacturers follow the SEMI-F47 curve developed by the semiconductor industry to ensure that control and manufacturing equipment would not require operator intervention in the event of a voltage sag or spike.<sup>2</sup> DPU indicates the number of events described in the PQ Report and that occurred below the SEMI-F47 line in 2022 (37 events in total) is concerning, but recommends the PSC take no action at this time.

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<sup>1</sup> The PSC approved the reporting template ("Reporting Template") in Docket No. 22-035-34, *Rocky Mountain Power's Request to Establish Reporting for Power Quality*.

<sup>2</sup> According to the PQ Report, customers are encouraged to be able to ride through less severe voltage sags. The PQ Report states it is "recommend[ed] [that] customers [use] the SEMI-F47 curve as a guideline to determine the voltage sag ride-through parameters of their equipment. Events below the SEMI-F47 curve will likely cause customers' equipment to shut off, whereas customers are encouraged to ride through events occurring above the curve. Voltage sag events occurring below the SEMI-F47 curve during the data collection period are identified in this report." PQ Report, at 3.

DPU states it will continue to monitor the SEMI-F47 curves and the event causes to develop a baseline to inform future recommendations.

The UPA recommends the PSC require RMP to (1) include (a) additional power quality event information such as all power trip events and minor outages and (b) meter installation, preventative maintenance, and system improvements planning, in all future reports, and (2) reformat its future reports (“UPA Recommendations”).

In response to DPU’s concern with the number of reported occurrences, RMP states that it does not always know the exact root cause of the event, and it is possible that external factors were the cause of the failure events that are classified as “equipment failures.” RMP explains that if the root cause of the event cannot be determined, RMP classifies it as an “equipment failure” even though it may not be the root cause in all cases.

RMP states that the UPA’s recommendations to include additional event information would obfuscate information in the PQ Report because it would not lead to meaningful conclusions about RMP’s system. UPA’s recommendation to modify the report so that incidents reported in the graph on page 6 of the PQ Report can be tied to Table 3 (in particular the duration and voltage for every occurrence on Table 3) would “overfill” the page. In addition, RMP states that UPA’s recommendation for RMP to provide a plan for permanent installation of additional PQ meters on RMP’s substations is not necessary because its current approach of providing metering at customer sites will offer the greatest benefit to customers overall as it enables specific and customized reporting of PQ events to individual customers. RMP explains that a majority of its PQ work is done with individual customers to enable actionable solutions on both the customer and RMP’s systems as appropriate.

The PSC appreciates the parties’ comments and reply comments and their recommendations. Since DPU recommended the PSC take no action, the PSC addresses the UPA recommendations below.

As we understand it, the SEMI-F47 curve is an industry standard that compares events that can potentially be ridden through by customers and those that are less likely to be ridden through. In other words, the curve identifies a realistic probability of the ability of RMP’s customers to ride through various utility voltage events. The PSC concludes that requiring the reporting of events above the SEMI-F47 curve (i.e., those that can likely be ridden through by customers) would be of minimal value given the purpose of the report.

The PSC finds the UPA’s recommendation to include the duration of the outages that occur below the SEMI-F47 curve in Table 3 to be useful. The graph that RMP uses does not show the precise duration of an event. The PSC finds that reporting the

duration of the event is important and useful as a baseline for future comparisons, and adding a column to Table 3 does not appear to be an undue burden. In regard to the recommendation for RMP to include its plans for location and timelines of permanent installation of additional power quality meters on RMP substations, and system maintenance and system improvements based on identified system issues, the PSC declines to adopt this recommendation at this time. The current record does not include any approximation of the costs of adopting the recommendations and how the costs may be justly allocated based on cost causation. The PSC finds that, currently, the intention of the PQ Report is to provide a systemwide reliability performance summary.<sup>3</sup> The PSC continues to encourage the UPA and RMP to work together to determine whether this type of information can be provided to the UPA's constituents, on an as needed basis.

Based on the PSC's review of the PQ Report, parties' comments and recommendations, RMP's reply comments, and there being no opposition, the PSC acknowledges the PQ Report adheres to the Reporting Template. The PSC directs RMP to reconfigure Table 3 in all future reports to add a column for the duration of each occurrence below the SEMI-F47 curve.

Sincerely,

/s/ Gary L. Widerburg  
PSC Secretary  
DW#327560

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<sup>3</sup> The PSC is also sensitive to privacy concerns with the inclusion of individual customer meter data in a publicly available report.