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Division of Public Utilities
UTAH DEPARTMENT OF COMMERCE

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Action Request Response

To: Public Service Commission of Utah

From: Utah Division of Public Utilities

Chris Parker, Director
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Date: November 5, 2025

Re: **Docket No. 25-035-54,** Status Report of Rocky Mountain Power's Electrical Power Delivery Quality Plan

Recommendation (Acknowledge)

The Division of Public Utilities (Division) recommends the Public Service Commission of Utah (Commission) acknowledge Rocky Mountain Power's (RMP) 2024 Electrical Power Delivery Quality Status Report (Report).

Issue

On October 1, 2025, RMP filed its Report with the Commission. On the same day, the Commission asked the Division to review RMP's Plan for compliance and make recommendations by October 31, 2025. On October 6, 2025, the Commission issued its Notice of Filing and Comment Period asking any interested person to submit comments by November 5, 2025.

Background

HB 389 was enacted during the 2023 Legislative Session and memorialized in Utah Code Sections 54-25-101, 54-25-102, 54-25-201, and as Administrative Code R746-316. RMP

initiated its Electric Power Delivery Quality Plan in response to Administrative Code R746-316-1, which establishes requirements pertaining to the submission, review, and implementation of an Electric Power Delivery Quality Plan pursuant to Sections 54-25-101, 54-25-102, and 54-25, 201.[1] Utah Administrative Code R746-316-4, Review of an Electrical Power Delivery Quality Plan, promulgates the Commission's responsibility to issue a public notice of filing and comment period.

The Division and RMP recommended the Commission combine the annual Power Quality Report with the Electric Power Delivery Quality Plan, which occurs in February of each year with the Electric Power Delivery Quality Plan due by April 1st of every other year, respectively.

Utah Administrative Code R746-316-5(1) requires the qualified utility to submit a status report of its Electric Power Delivery Quality Plan to the Commission by October 1st of each year.[2]

Discussion

Utah Administrative Code R746-316-3, Submission of an Electrical Power Delivery Quality Plan, requires a qualified utility to submit an electrical power delivery quality plan to the Commission before April 1, 2024, and biennially thereafter with subsequent plans before April 1st of each even-numbered year.[3]

Utah Administrative Code R746-316-3(2) sets forth the required elements that must be included in the utility's electrical power delivery quality plan:

a) a description of the metrics a qualified utility uses to assess Power Quality against applicable Industry Standards;
b) a description of the equipment the qualified utility uses to assess Power Quality and to otherwise comply with this rule;

[1] *Rocky Mountain Power's Electric Power Delivery Quality Plan,* Docket No. 24-035-16, March 28, 2024, https://pscdocs.utah.gov/electric/24docs/2403516/333094UtahElcticlPwrDlvryQltyPlnApr12024Rprt3-28-2024.pdf.
[2] Utah Admin. Code R746-316-5(1) through (5).
[3] Utah Admin. Code R746-316-3(1).

c) a description of the procedures and standards the qualified utility will use to assess an interconnection request to decrease the risk that the interconnected utility-scale generation facility will adversely affect electrical power delivery quality to customers;

d) a description of the procedures and standards the qualified utility will use to address adverse effects to electrical power service quality that are caused by interconnected customer-owned generation systems, including instances where the adverse effects are discovered after the time of interconnection; and

e) a description of proposed modifications or upgrades to facilities and preventive programs the qualified utility will implement to address any electrical power delivery quality issues that do not meet the qualified utility's interconnection policy or relevant Industry Standards.[4]

The Division reviewed RMP's Report for compliance with Utah Administrative Code R746-316-3 and concludes that RMP's Report contains the required reporting elements. While understanding complex power quality characteristics that might lead to unreliable service to customers is challenging to the Division, it understands at a high enough level to interpret RMP's Report.

The Division notes that RMP relies on many Industry Standards to evaluate its own metrics. RMP relies on guidance from the Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), National Electric Manufacturers Association (NEMA), National Electric Code (NEC), and the Semiconductor Equipment and Materials Institute (SEMI-F47).[5]

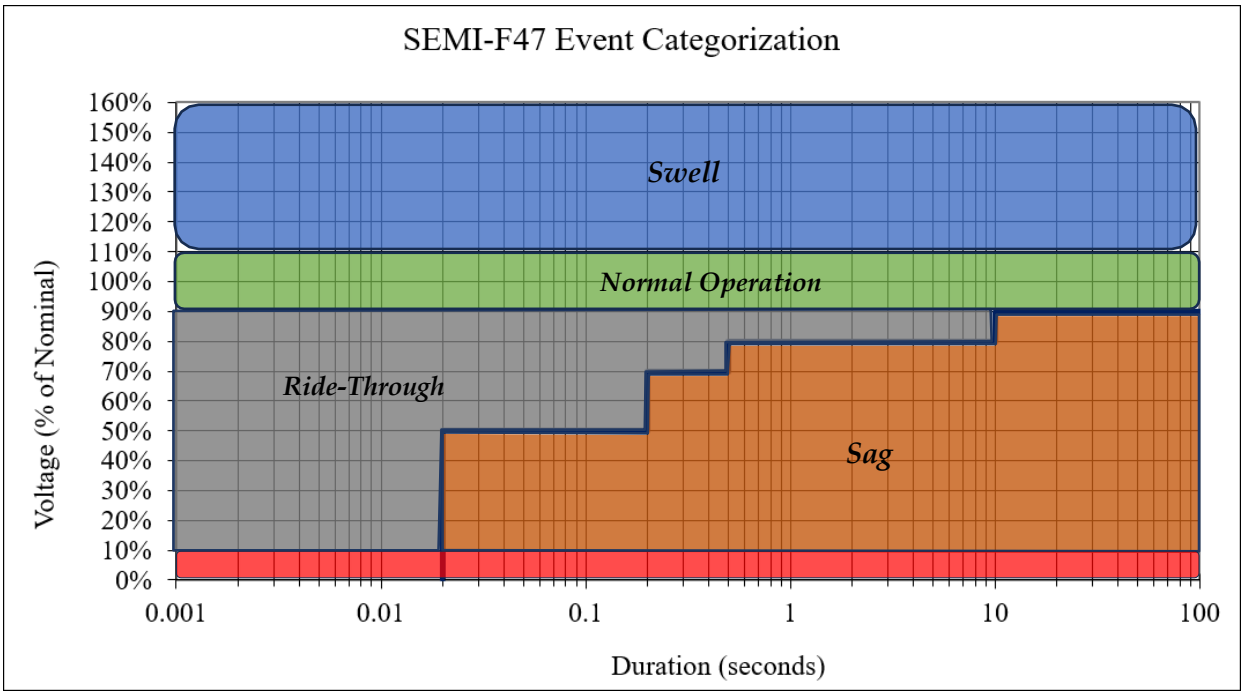
RMP reports that most of its monitored transmission substations met its ANSI/IEEE-based power quality standards, with the majority of sites recording steady-state voltage and imbalance within accepted ranges. RMP's monitoring captured 478 unique sag/swell/ride-through events during 2024 and identified seven locations with persistent voltage harmonic (VTHD) issues at its Emery, San Juan, McCracken, Plymouth, Pinto, Red Mesa, and Syracuse sites requiring customer mitigation. RMP reports that a small number of sites showed sustained noncompliance for specific metrics such as weekly VTHD, flicker, or

[4] *Id*., at paragraph (2).
[5] Docket No. 24-035-16, *Supra* note 1, at page 4, PacifiCorp Engineering Handbook, *Power Quality Standards 1C.2.1, 1C.3.1, 1C.4.1, 1C.5.1, and 1C.6.1.*

percent-time-in-range and are being addressed through targeted operational adjustments, customer remediation plans, and follow-up monitoring.[6]

RMP includes Figure 2, SEMI-F47 Event Categorization, in its Report. The Division appreciates RMP's inclusion of this figure to help the reader understand the different characteristics of power quality issues that might lead to issues for customers.[7]

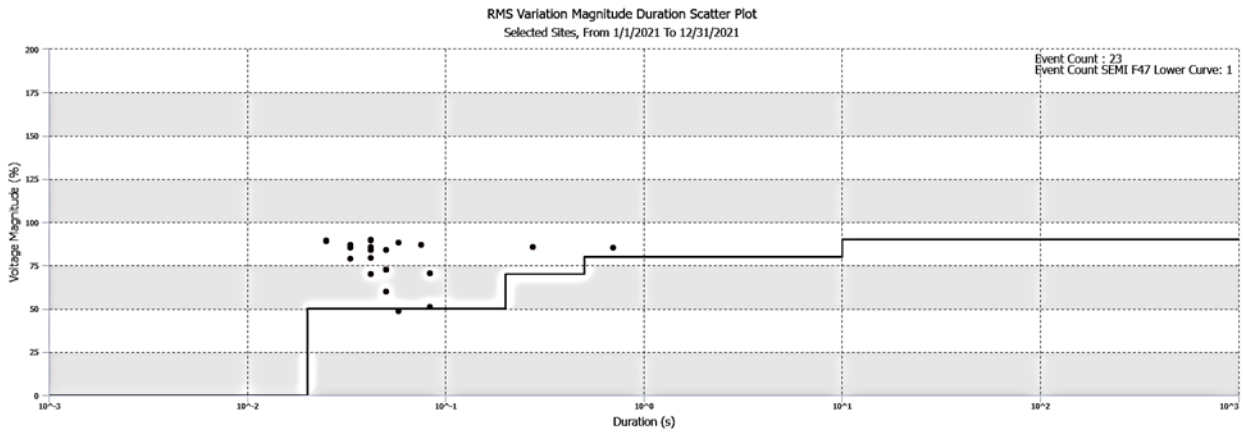
Figure 2. Event Location Identification in Reference to the SEMI-F47 Curve



The SEMI-F47 Event Categorization is a standard that defines voltage sag immunity requirements for semiconductor manufacturing equipment and its key subsystems to ensure they can operate correctly during brief, temporary drops or spikes in voltage, that are not outright faults. In this context, a **Swell** represents a brief increase in the root-mean-square (RMS) voltage above the Normal Operating range. **Ride-Through** is the ability for equipment to continue operating without interruption during a momentary voltage sag. **Sag** is a momentary decrease in the RMS voltage without a complete power interruption.

[6] *Status Report of Rocky Mountain Power's Electrical Power Delivery Quality Plan*, Docket No. 25-035-54, October 1, 2025, https://pscdocs.utah.gov/electric/25docs/2503554/342049Rprt10-1-2025.pdf.
[7] *Id.,* at 12.

RMP encourages customers to implement appropriate voltage sag and ride-through protocols to ensure that equipment interruptions do not occur because of system design and to meet safety and equipment protection guidelines. The Division supports this recommendation in-light of short-term faults caused by various conditions resulting in temporary power issues. The following graph illustrates ride-through issues occurring above the voltage sag line for this reporting period.[8]



RMP's RMS Variation Magnitude Duration Scatter Plot above illustrates numerous events occurring above the line in the Ride-Through area of the SEMI-F47 chart where voltage sags occurred, but likely would not cause issues for customers with equipment ride-through capabilities. The Plot illustrates one occurrence below the line that might cause issues for customers with or without ride-through capabilities.

The Division appreciates RMP's compilation of the many elements that contribute to power quality at both the distribution and transmission level. As more and more distributed energy resources are interconnected from customer-owned generation and utility-scale resources, along with load and other factors, power quality is rapidly becoming significantly more important for system reliability and delivery of quality power to RMP's customers.

Conclusion

The Division has reviewed Rocky Mountain Power's 2024 Electrical Power Delivery Quality Plan Status Report and determined that it reflects Utah Administrative Code R746-316-3

[8] *Id.,* at 21.

and complies with Utah Administrative Code R746-316-3. Therefore, the Division recommends the Commission acknowledge RMP's Report.

cc: Jana Saba, RMP
Max Backlund, RMP
Michele Beck, OCS
Service List