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MEMORANDUM

To: *Public Service Commission*

From: Division of Public Utilities
Chris Parker, Director
Artie Powell, Manager
Charles Peterson, Technical Consultant
Abdinasir Abdulle, Technical Consultant

Date: December 14, 2012

Re: Docket No. 11-999-05. **R746-313**, Rocky Mountain Power's Electric Service Reliability Rule.

RECOMMENDATIONS

Based on its review of Rocky Mountain Power's ("Company") additional Comments filed with the Commission on September 14, 2012, the Utah Division of Public Utilities (Division) recommends that the Commission:

- 1) Approve the Company's request to modify the rule by substituting "MAIFI" with "MAIFI_e" and make the necessary changes to the document to reflect that.
- 2) Direct the Company to come forward with a specific written proposal along with its justification regarding the specific threshold dollar costs or any other threshold of a major event below which a written filing would not be required, and then allow the interested parties to comment on that proposal.
- 3) Approve the Company's proposal not to report MAIFI_e at an operational level.

- 4) Approve the Company's proposed insertion of the word "reliability" in line 420 of the rule.

ISSUES

On September 14, 2012, Rocky Mountain Power ("Company") filed additional comments on the Commission posted changes to its proposed rule, R746-313. These additional comments included:

- 1) The following definition of MAIFIE should be added to R746-313-2:

"MAIFIE" means momentary average interruption event frequency index.
(Note – This index does not include events immediately preceding a
lockout.)

- 2) The references to MAIFI on line 168 in R756-313-4(3)(b)(ii) and line 382 in R746-313-7(3)(a) should be changed to MAIFIE.

- 3) R746-313-7(3)(a) should be further modified to limit the reporting by operating area to SAIDI, SAIFI, and CAIDI only. This paragraph should read:

(a) The calculated SAIDI, SAIFI, CAIDI, and MAIFIE reliability indices for the reporting period. At a minimum, the electric company must report this information on a system-wide basis compared with the previous four years' performance and, *for SAIDI, SAIFI, and CAIDI*, on an operating area compared with the previous four years' performance;

- 4) The word "reliability" should be added to line 420 of R746-313-7(3A)(f) so that it reads

(f) a listing of the T_{MED} values that will be used for each reliability reporting area for the forthcoming annual reporting period.

- 5) The reference to MAIFI should be removed from lines 475 and 476 of R746-313-8(1)(d).

- 6) A minimum dollar limit or other threshold should be added to R746-313-8(1)(e).

These additional comments could be regrouped three comments: 1) to modify the rule by substituting “MAIFI” with “MAIFI_e”, 2) to modify the rule limiting the reporting by operating area to SAIDI, SAIFI, and CAIDI only, 3) to add a minimum dollar limit or other threshold to the rule.

DISCUSSION

In its filing the Company justified its proposed substitution of MAIFI with MAIFI_e as being practical since the impact experienced by the customer is more directly related to the momentary interruption event (MAIFI_e) and less to the individual momentary interruption operation (MAIFI). The rationale for the proposed substitution between the two indices lies in the difference between the two indices.

In a telephone discussion with the Division, on November 30, 2012, and in its filing with Commission, the Company indicated that the electric system is equipped with automatic devices that protect systems from damage during a disturbance and then, following the disturbance, attempt to restore electric service. These devices sense and isolate portions of a system automatically to prevent a disturbance from damaging the system. In so doing, the devices interrupt service to the portions of the system that are downstream of the disturbance. Because the majority of disturbances that the electrical system experiences are transient and with this type of equipment can be corrected by a momentary interruption to customers, the devices are also designed to reconnect the isolated portions of the systems (i.e., reclose the opened circuit) automatically after a pre-determined delay and will repeat interrupting and trying to reclose for a utility predetermined number of times before lockout.

The Company also indicated that these momentary interruptions have different impacts on different classes of customers. Consequently, the electric industry took interest in recording the momentary interruptions. Two indices were developed to measure and record momentary interruptions, MAIFI, which measures the momentary average interruption frequencies, and MAIFI_e, which measures the momentary average interruption event frequency, where

momentary interruption event is defined in IEEE as an interruption of duration limited to the period required to restore service by an interrupting device.

As an Example, assume a disturbance happened and the device interrupted the system and reclosed at the fourth attempt. This will result in four momentary interruptions that are taking place within a very short time, say less than five minutes. Hence MAIFI, which counts the number of interruptions, will calculate four interruptions, whereas MAIFIE, which counts the number interruption events, will calculate one momentary event.

Since customers do not normally reset their equipment (such as clocks on appliances) until power is completely restored, the customer's experience is more closely related to the momentary interruption event rather than each individual momentary interruption. Thus, the Company concludes that MAIFIE is a better measure of reliability.

Based on the Company's representation, the Division concludes that the Company's proposed substitution between MAIFI and MAIFIE is reasonable and recommends that the Commission approve the Company's proposed changes to items 1, 2, and 5, listed above. The Division understands that that is what the Company has been reporting in Utah and other states where momentary reporting requirements exist and the Division believes that there is no practical effect if this change were made.

The Company also proposed that the reporting of the detail of the dollar costs of a major event be limited to major events whose costs surpasses a specific threshold. The Division believes that the Company needs to come forward with a specific written proposal along with its justification, and then allow the interested parties to comment on that proposal.

Regarding the Company's proposal of not reporting MAIFIE at the level of operational area, the Division agrees with the Company that it is difficult to measure MAIFIE at an operational level since the circuits and substations service an area that can span operating areas. It is not easy to separate the SCADA data into smaller geographical areas. Therefore, the Division concludes that the proposed change to the rule that MAIFIE should not be reported at an operational area is reasonable and recommends that the Commission accept the Company's proposal (item 3).

Finally, the Division agrees with proposed editorial change in item 4 and recommends approval.

CC:

Dave Taylor, Rocky Mountain Power
Michele Beck, Office of Consumer Services
Arthur Sandack