

II. COMMENTS

3 Boise’s comments are focused on the area designed to be most helpful, and for
which Boise feels the most qualified to provide feedback—reliability concerns for continuous
4 process industry. In short, Boise believes that the largest electric customers in this state, and
particularly those requiring continuous industrial process, justify highly tailored reliability
regulation. While general reliability metrics like system average interruption frequency index
5 (“SAIFI”) and system average interruption duration index (“SAIDI”) may be useful to the
Commission in a broad context, such modeling may not provide the Commission with relevant
information to properly gauge how well IOUs are serving their largest customers.

4 The comments following are divided into three sections. First, Boise provides
direct answers to the questions posed by the Commission in the Notice. Second, Boise offers
further explanation and context supporting those answers, to generally familiarize the
Commission with large customer reliability concerns. To this end, Boise offers illustrations of
its own reliability experiences in Washington. Third, Boise submits recommendations for
regulatory practices which could better ensure reliable service for large customers in the future.

A. Responses to Specific Commission Questions

5 The Commission has posted an econometric benchmarking study for the three
IOUs providing electric service in this state, and solicited feedback on the final report produced
by Power System Engineering, Inc. (“Power System”) and concerning reliability benchmarking
more generally. As a component of this inquiry, the Commission also seeks assistance “in
determining whether (or how best) to employ the results of the study,” through written comment
response to several questions.^{2/} Boise offers answers to these specific questions, as follows:

^{2/} Id. at 2.

- *Does an econometric approach, in general, provide a sound basis for establishing targets for SAIDI and SAIFI?*
 - Boise has no reason to contest the basic soundness of an econometric approach, toward the establishment of reliability targets. The concern from Boise’s standpoint, however, is the effectiveness of such metrics for large customers.
- *In the absence of an econometric benchmarking study, how should the commission evaluate whether a utility is providing an economically efficient level of reliability?*
 - For the largest customers of IOUs, and especially for continuous process industry, economically efficient levels of reliability might be evaluated best through specific service data relative to individual customers. Although such reporting could be impractical for thousands of individual small customers in other rate classes, data should be available (or have the potential to be made readily available) for the largest customers.
- *Does an econometric approach, in general, provide a sound basis for evaluating the need for reliability investments?*
 - No, at least not standing alone, and relative to large customers like Boise, who are dependent upon reliable power to keep continual industrial process operating. Boise does not express a firm opinion relative only to smaller customers.
- *In the absence of an econometric benchmarking study, how should the commission evaluate whether a utility’s reliability performance is appropriate given its unique service territory characteristics?*
 - Boise suggests that evaluation specifically tailored to the largest customers is appropriate. For instance, Boise already is served by Pacific Power under a unique rate schedule in Washington, Schedule 48T-Dedicated Facilities. Thus, evaluating Pacific Power’s reliability performance for Dedicated Facilities service would also be appropriate. In this context, Pacific Power’s unique service territory characteristics would be largely, if not fully, irrelevant.
- *What other statistically measurable and valid approaches should the commission consider in evaluating SAIDI and SAIFI targets?*
 - Previously, Boise has recommended the use of a system average rms (variation) frequency index (“SARFI”), as a more suitable metric for continuous process industries within a large customer class.^{3/} While SAIDI

^{3/} See Re Investigation into PacifiCorp’s Reliability Issues of Electric Service at the Boise White Paper, L.L.C. Wallula Mill, Docket UE-121680, David W. Danner letter to Mr. Pat Reiten, PacifiCorp, Re: Letter from Boise, Inc, detailing outages and other reliability issues with PacifiCorp’s service to the Boise White Paper, L.L.C., Wallula Mill location (“Danner Letter”), Att. at 3 (Oct. 26, 2012).

and SAIFI metrics may overstate the actual reliability of service experienced by a particular large customer, the SARFI metric allows for better and more customized evaluation.

For example, Boise understands that SARFI can be broken down into sub-indices, according to cause or duration of events. An index tailored to lightning-induced faults, therefore, could be quite useful to evaluate the reliability issues Boise has experienced at its Wallula Mill (the “Mill”), and the ongoing concerns over the adequacy of lightning protection at the Mill.^{4/} Coupled with an IOU’s ability to conduct system monitoring for accurate assessment of performance at a specific system location, an IOU like Pacific Power could track reliability performance at the Mill, and report on a SARFI-target basis related to lightning-induced faults. Boise understands that customized SARFI reporting along these lines, for specific large customers, has ample precedent in other states.

Also, since SARFI allows for assessment of short-duration rms variation, as opposed to mere sustained interruption tracking via SAIFI, mid- to large customers from both the commercial and industrial classes may find this metric valuable. In this manner, the Commission would be empowered with an added capability to assess voltage sags affecting many of the customers within these classes, with a wide variation for an index threshold value possible (e.g., a SARFI₇₀ would reflect the average number of sags below 70%).

- *Should the econometric benchmarking study performed by Power System Engineering be used to establish utility-specific targets for SAIDI and/or SAIFI? Why or why not?*
 - Boise would not oppose the use of the Power System study to establish utility-specific SAIFI or SAIDI targets, provided additional and customized metrics and evaluative criteria are employed for the assessment of reliable service to the largest customers of IOUs. Boise takes this position for reasons explained throughout these comments, but generally summarized by the observation that SAIFI and SAIDI metrics tend to overstate, and do not accurately reflect, reliability of service from a large customer perspective.

- *Should the econometric benchmarking study performed by Power System Engineering be used to evaluate the need for investments in reliability? Why or why not?*
 - Boise could foresee some utility in using the Power System study for investment purposes, but the study contains no information useful to guide Commission regulation on adequate reliability investment relative to the largest customers of IOUs. Again, the reasons for this position are explained throughout these comments, but generally summarized by the observation that

^{4/} Id., Att. at 1-2.

SAIFI and SAIDI metrics tend to overstate and do not accurately reflect reliability of service from a large customer perspective.

- *Do you believe that additional policy guidance from the commission on the issue of reliability performance benchmarking is necessary?*
 - Yes, Boise strongly supports additional policy guidance from the Commission on this issue, and reliability regulation more generally.
- *(For utility representatives) Please comment on the reasonableness of the benchmarks produced by the study, specific to your utility. Please describe your perspective on both a) the point estimate reliability target, and b) the target range produced by the 90 percent confidence interval.*
 - N/A
- *Please provide any additional commentary you believe the commission should consider when determining whether or how, to use the study from Power System Engineering to establish reliability benchmarks or to evaluate investments in reliability.*
 - In the following comments section, Boise offers additional context to illustrate ongoing reliability concerns, which may assist the Commission in determining whether or how to use the Power System study for benchmarking and investment evaluation purposes, particularly as pertains to unique large customer service issues.

B. Additional Context and Explanation for Boise’s Perspective

6 Boise appreciates that IOUs already provide outage reporting, as well as SAIFI and SAIDI results to the Commission. For instance, last month Pacific Power filed information on a major outage event occurring on June 4, 2017, with updated SAIFI and SAIDI data included.^{5/} Such reporting may well be helpful to the Commission regarding general, system-wide IOU performance and the assessment of smaller customer reliability. But, current reporting metrics have not proven useful to elucidate or ameliorate the reliability issues Boise has faced for decades. Presumably, the shortcomings of current reliability evaluation are also relevant to other large IOU customers in Washington.

^{5/} See Re Pacific Power, Docket UE-170802, Major Event Report (July 13, 2017).
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Stated plainly, even a very brief service interruption or sag can affect a continuous industrial process customer like Boise significantly, resulting in both hours of operational recovery time and considerable monetary consequences. As Boise has previously testified to the Commission, “outages have resulted in significant lost production time at the Walulla facility,” including both “the lost value of our products and the cost of paper machine rolls and fabrics.”^{6/} In contrast, a brief (or even a considerably longer) power interruption may have very little impact on a residential customer or irrigation customer—e.g., a residential customer may need to reset clocks, or an irrigation customer could be required to reset timers. But, these impacts would be much closer to the category of minor annoyances than the category of major financial and operational effect, relevant to a large customer like Boise. From Boise’s perspective, SAIFI and SAIDI simply do not provide useful criteria to reflect or evaluate costly impacts that large customers may face from service interruptions and significant voltage sags, especially considering that even an interruption measured in seconds can massively impact large customers.

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In fact, Boise has experienced frequent power outages and voltage dips at the Mill since at least the 1980s,^{7/} which continue to the present, and have not been rectified through any action taken in response to SAIFI and SAIDI reporting. Among other things, these outages and voltage sags at the Mill have led to: 1) express merger conditions approved by the Commission, requiring Pacific Power to study and implement solutions to Mill reliability concerns;^{8/} 2) Boise’s “request that the Commission step in and conduct an investigation into this matter,” after Boise and Pacific Power were shown to “fundamentally disagree” about the performance of

^{6/} WUTC v. PacifiCorp, Dockets UE-061546 and UE-060817, Bruehl, Exh. WWB-1T at 4:11-12, 14-15 (Feb. 16, 2007) (“Bruehl Testimony”).

^{7/} See Danner Letter, Att. at 1.

^{8/} See e.g., Re MidAmerican Energy Holdings Co., Docket UE-051090, Order 08, App. A at 18-19 (Mar. 9, 2006) (Condition Wa 25); Danner Letter, Att. A at 1-2.

merger conditions and the responsibility for continuing reliability issues;^{9/} and 3) impacts of “documented millions of dollars in losses,” including several “individual outages causing over \$200,000 of lost production,” in addition to “fully avoidable expenditures of incremental capital, on Boise’s part, in order to secure internal protection against the risk of further outages at the Wallula Mill.”^{10/}

9 By referencing these experiences, and directly citing to prior dockets, Boise’s goal is to provide relevant context to the Commission about the actual Mill reliability issues that continue to this day. Indeed, Boise urged the Commission to keep its recent complaint docket open, after reporting three separate instances of major power disruption at the Mill, over a mere nine-month span prior to September 2015.^{11/} Although the Commission chose not to keep the specific Mill reliability investigation open in December 2015, Boise continues to experience costly and otherwise harmful impacts from subsequent outage and voltage sag events that have not been remedied, despite WUTC Staff’s perception that “parties have been working without the assistance of UTC Staff and ... there is no longer a need for UTC involvement.”^{12/}

10 To be perfectly clear, based on literally decades of earnest but unsuccessful attempts,^{13/} Boise has not found that “working without the assistance of UTC Staff” or the effectual exercise of Commission authority has produced reliability improvement for Mill

^{9/} Docket UE-121680, Response to Pacific Power’s November 8, 2012 letter on behalf of Boise, from Michael Hale at 4, 1 (Nov. 29, 2012).

^{10/} See e.g., Danner Letter at 2; Bruehl Testimony at 4:13-14; Docket UE-121680, Boise Letter to D. Nightingale at 1 (Sept. 8, 2015).

^{11/} Docket UE-121680, Boise Letter to D. Nightingale (Sept. 8, 2015).

^{12/} Docket UE-121680, Letter to Jesse E. Cowell and Bryce Dalley from Steve King on behalf of The Utilities and Transportation Commission, Re: Notice of Closure of Docket UE-121680 at 1 (Dec. 30, 2015). Although closing this docket contrary to Boise’s express statements, the Commission expressly allowed for future use of docket information: “Closing this docket does not prohibit future action to be brought before the Commission, nor does it limit the incorporation of materials from the docket into a possible future proceeding.” Id.

^{13/} See Bruehl Testimony at 6:8-19 (noting Boise’s good faith efforts in working with Pacific Power to remedy ongoing Mill reliability issues since 1988).

service. For this reason, Boise commends the Commission for taking an active posture now, and revisiting the critical issue of electric service reliability evaluation. Moreover, much more is at stake than just the direct economic impacts related to inadequate service performance, which could prompt large customers like Boise to consider alternative options or relocation, if reliability regulation is either passive or ineffective. As a former Senior Staff Electric Engineer for Boise has testified, merely accounting for lost production costs “does not include numerous other costs, like the cost to the environment, employee exposure to environmental and safety risks, and the value of equipment that was damaged as a result of an unscheduled and disorderly shutdown process.”^{14/} More specifically:

There are numerous potential hazards when complex and expensive equipment shuts down without any notice, and our employees are forced to suddenly react to a potentially dangerous situation

There are rotating machinery hazards, potential spillage of chemicals or hot water, and startling noises that can cause safety problems when we experience power dips or outages. For example, when we lose power, high inertial machines continue to rotate for some time. Similarly, uncontrolled shutdowns may result in chemical or hot water spills and employee exposures. In addition, there are often loud noises from steam venting and other noise sources that can startle employees who may be performing already difficult or dangerous work. All of these problems are exacerbated and made more dangerous because the loss of power during an outage often causes reduced illumination near our machines.

There are also potential environmental risks that result when our facility must shut down without notice. These include non-condensable gas venting, waste water treatment release, and boiler combustion upsets. Our non-condensable gases are normally incinerated in either our lime kiln or hog fuel boiler; however, a loss of power causes these gases to be vented to the atmosphere. A loss of power places the plant at risk of releasing untreated waste water to the river, and will cause some out of range stack emissions on the hog fuel and recovery boilers.^{15/}

11 For a variety of reasons, therefore, some form of effective and proactive Commission regulation to ensure reliable electric service for large customers is imperative.

^{14/} Id. at 4:14-18.

^{15/} Id. at 5:5-6:6.

Boise has been proactive, so far as possible, in taking efforts and making significant capital investments to secure internal protection against the risk of future outages and disruptions at the Mill, notwithstanding a lack of reciprocal efforts and investment from the utility side.^{16/} Yet, only so much can be done by an individual customer. As explained in 2007, regarding a reliability situation which has still not improved over the last ten years, Boise “... would not raise this issue ... if we did not strongly believe the status quo is unacceptable and *we had taken every reasonable step to resolve the problem.*”^{17/} At the end of the day, Boise continues to pay “for firm electric power, but [has] been provided an inferior and, at times, interruptible product” for decades.^{18/}

C. Recommended Solutions for Large Customers like Boise

12 Boise’s comments, including a brief overview of long-running reliability concerns at the Mill, are provided to effect forward-looking solutions. Hopefully, as the Commission considers an approach to reliability regulation in the future, the shortcomings of simple reliance on prior reporting methods, including SAIFI and SAIDI valuations, will be apparent—at least from a large customer perspective. To this end, Boise has two primary recommendations, relative to future reliability assessments for large customer electric service.

13 First, as illustrated by the experience Boise has endured, an individualized approach is necessary to ensure adequate reliability for the largest customers of IOUs. In Boise’s case, infrastructure used to provide service to the Mill is quite simply outdated and poorly

^{16/} See, e.g., Docket UE-121680, Boise Letter to D. Nightingale at 1 (Sept. 8, 2015) (noting “fully avoidable expenditures in incremental capital” for this purpose); Bruehl Testimony at 6:20-8:4 (testifying to many actions Boise has taken since 1991 to mitigate damages arising from unreliable Pacific Power electric service, including “critical system control changes, large motor protection changes, and installation of line side reactors to all adjustable frequency drives”).

^{17/} Bruehl Testimony at 2:3-6 (emphasis added).

^{18/} *Id.* at 4:1-2.

configured, thereby justifying considerable upgrades and service redesign.^{19/} Accordingly, reference to broad metrics alone will not ensure sufficiently reliable service, but Commission Staff will need to conduct fact-specific reviews, including input from both individual large customers and IOUs.

14 Second, the Commission may also materially improve reliability evaluation by the consideration of alternative metrics like SARFI, combined with tailored sub-indices reflecting factors such as lightning-induced faults. Boise understands that this approach is used by IOUs in other states, to gauge reliable service for large customers situated similarly to Boise. Moreover, smaller commercial and industrial customers alike may also find value in a SARFI approach.

III. CONCLUSION

15 Boise greatly appreciates the open solicitation by the Commission for broad stakeholder and interested person input to this reliability investigation. Boise hopes these comments will assist the Commission in gaining a full perspective, particularly from a large customer standpoint, toward the establishment of new and more effective reliability regulation.

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Respectfully submitted,

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^{19/} See *id.* at 2:18-3:6 (explaining late 1960s and early 1970s vintage of Mill service infrastructure, which did not even provide state-of-the-art lightning protection when installed, as well as an unusual sub-transmission service configuration for a customer as large as Boise).