

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1856

In the Matter of

PORTLAND GENERAL ELECTRIC
COMPANY,

Baldock Storage Pilot

Staff Comments
Informational Filing Only

The Public Utility Commission of Oregon Staff (Staff) offers these brief comments as a status update and for informational purposes.

BACKGROUND

On August 13, 2018, the Commission issued Order No. 18-290 in this docket, adopting a partial stipulation (Stipulation)¹ that outlined an agreed approach to the development of five energy storage projects, as well as additional analysis analyses concerning the site locations that PGE chose for certain energy storage projects.

In particular, the adopted Stipulation required that the following additional analyses and filings be made by PGE:

- **SPE Improvements:** PGE is required to file a detailed written explanation of a plan to improve its energy storage modeling capability to estimate all of the energy storage benefits as directed in Order Nos. 17-118 and 17-375. The parties agreed that Staff would review and approve PGE's revised modeling plan for compliance with Order Nos. 17-118 and 17-375. Additionally, the Stipulation requires all future energy storage projects proposed by PGE to credibly estimate the value of all listed benefits in Order Nos. 17-118 and 17-375, and PGE must explain how the locational value of energy storage resources are considered in the IRP planning process. Staff filed informational comments on this issue on May 9, 2019.
- **Coffee Creek:** To proceed with this project, the parties agreed that PGE must first present an analysis to Staff, supported by adequate evidence, that Coffee Creek is the best site for the Energy Storage System (ESS) based on the

¹ Docket No. UM 1856, Partial Stipulation filed May 22, 2018.

universe of available substation sites within PGE's system.² Staff filed informational comments on this issue on May 9, 2019.

- **Baldock:** Similarly, to proceed with this project, the parties agreed that PGE must first present an analysis to Staff demonstrating that Baldock is the best site to locate the energy storage system given the universe of available feeders on PGE's system.³
- **Residential Pilot:** Last, the stipulation requires PGE to present a revised project design to Staff with evidence demonstrating that PGE will manage risk and optimize learnings.⁴ PGE's revised project proposal must include specificity on how the individual energy storage systems will be aggregated and dispatched as outlined in the original application.

In the comments below, Staff discusses its review of PGE's justification for the selection of the Baldock location (on the Canby-Butteville substation), namely whether it can be considered an optimal location for the energy storage project associated with high penetration rates of solar systems.

COMMENTS ON BALDOCK

In February of 2019 PGE provided additional analysis to justify its selection of the Baldock site for a 2MW/4MWh storage system. PGE selected the Baldock site to explore the value of storage as a non-wires alternative to Transmission and Distribution (T&D) infrastructure investments in the presence of high penetration of solar and to explore the specific benefits a storage system can provide in addressing reliability and power quality issues due to high penetrations of distributed solar.

Staff appreciated this pilot's purpose but initially did not support PGE's selection of the Baldock location because the site selection process both lacked transparency and [the feeder associated with Baldock was not a top location in terms of feeder locational value for risk reduction from the addition of an energy storage system.⁵ Staff desired a better understanding of the Company's rationale and process for selecting the Baldock site and therefore required PGE to provide additional information supporting this site choice as part of the stipulation in this docket.

The additional analysis provided by PGE helped to address Staff's concerns. First, the revised proposal from February 2019 better described PGE's screening process and explained how the penetration of distributed solar was incorporated as threshold screening mechanism. Second, PGE's description of the implementation risks that were used to screen sites helped Staff become more comfortable with the selection of the Baldock location.

² In the event that Staff does not agree that adequate evidence has been provided, the Parties agree that the Commission should determine whether PGE can move forward with the project.

³ Same note as footnote #2

⁴ Same note as footnote #2

⁵ PGE ranked 589 feeders and in terms of financial benefit per kWh from battery installations of various durations and size. The Canby-Butteville feeder ranked just outside the top 10% of feeders for batteries with a duration of 4 hours or greater.

The additional data provided by PGE has addressed Staff's questions and the selection of the Baldock site appears more justified. While the estimated locational value for risk reduction from a new storage system located at the Baldock site on the Canby-Butteville feeder was not ranked the highest under at least one of three types of cost-benefit analysis initially provided by PGE,⁶ the additional metric and data regarding the level of solar penetration at each feeder was helpful and provided adequate evidence for locating the energy storage system at the Baldock feeder.

Staff looks forward to the learnings associated with this project and Staff would note three points:

- First, if a discernable benefit can be attributed to the addition of storage where there is a high penetration of solar at a feeder or distribution substation, this should be incorporated into the Company's storage potential evaluation (SPE) as a selection criteria for future sites.
- Second, the future evaluation of this pilot project should explore what price signals should be sent to the market to encourage third party investments in energy storage systems where they provide a benefit to the areas of PGE's grid experiencing a high level solar penetration (e.g. 20 to 30 percent at the feeder level).
- Lastly, consistent with previous Staff comments filed in May, Staff suggests that the StorageVet tool be used to analyze the benefits of the Baldock pilot project once preliminary values are established for locating storage near high penetrations of solar.⁷ This would be an excellent test case for StorageVet as a price taker model.

COMMENTS ON OTHER PROJECTS

This concludes Staff's status update and informational filing.

Dated at Salem, Oregon, this 23th of September, 2019



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⁶ See above.

⁷ See UM 1856 Staff Comments, May 9, 2019, pgs. 5, 21, 22, and 32