

CASE: UM 1856
WITNESS: SETH WIGGINS

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 200

Surrebuttal Testimony

April 24, 2018

1 **Q. Please state your name, occupation, and business address.**

2 A. My name is Seth Wiggins. I am a Senior Utility Analyst for the Public Utility
3 Commission of Oregon (Commission or OPUC). My business address is 201
4 High Street SE, Salem, OR 97301.

5 **Q. Please describe your relevant work and educational experience.**

6 A. My educational background and employment experience are set forth in my
7 Witness Qualification Statement, which is provided as Exhibit Staff/101.

8 **Q. What is the procedural status of this docket?**

9 A. A settlement agreement has been reached in this docket. At this time, the
10 parties are in the process of finalizing and executing the stipulation, as well
11 as drafting joint testimony in support of the stipulation. However, the parties
12 agreed to carve out one issue to be litigated in this proceeding: the issue of
13 competitive bidding, specifically, whether Portland General Electric (PGE)
14 should be required to allow third-party ownership options for the Coffee
15 Creek project in its RFP. The parties further agreed to keep the already
16 adopted procedural schedule to address this one remaining issue.

17 **Q. Please briefly describe the Coffee Creek project.**

18 A. The Coffee Creek project was one of five pilots originally proposed in PGE's
19 proposal, and slated for development at the Coffee Creek substation. If
20 completed,¹ Coffee Creek will have a minimum size of 17MW, and a maximum

¹ Under the settlement agreement reached by parties, PGE must "must first present an analysis to Staff, supported by adequate evidence, that Coffee Creek is the best site for the ESS based on the universe of available substation sites within PGE's system".

1 overnight capital cost of \$30.14 million. Total project costs are estimated to be
2 \$44 million.

3 **Q. What is Staff's position on third party ownership of Coffee Creek?**

4 A. PGE should be open to third party ownership (TPO) of the energy storage
5 system (ESS) at their Coffee Creek substation. While TPO could potentially
6 increase the complexity and operating costs, it is entirely possible that the
7 benefits associated with TPO (chiefly the reduced costs) could make TPO
8 beneficial for ratepayers. Given the overall magnitude of cost of the proposed
9 ESS, it is important that a third-party option should at a minimum be
10 considered as an option for the RFP. Staff holds this opinion despite all stated
11 concerns by PGE in their Rebuttal Testimony, as neither individually nor
12 collectively do PGE's listed concerns preclude TPO at Coffee Creek.

13 **Q. Briefly, what concerns were raised by PGE?**

14 A. PGE's main concerns are:

- 15 • TPO would limit the learning from the pilot project;
- 16 • TPO would occur on PGE's property;
- 17 • TPO would create safety and reliability risks;
- 18 • TPO would create cybersecurity risks; and
- 19 • TPO would create financial risks.

20 **Q. Does PGE require solutions to each of its highlighted concerns before**
21 **considering TPO?**

22 A. No. In the simplest construction, PGE could write a request for proposal (RFP)
23 that requires bids to address each of PGE's stated concerns. It would be up to

1 the bidders to develop solutions to each of these problems; a fair and
2 transparent RFP would then determine whether any bidders both addressed all
3 operational concerns and provided a lower-cost option.

4 For example, one of the main concerns PGE raised was the reduction in
5 learnings that TPO could potentially cause. An ownership-agnostic RFP could
6 fairly easily be written which requires that each bid address how data from the
7 operation, performance, usage, and any other relevant category will be shared
8 with PGE. PGE could develop a scoring metric which evaluates how effective
9 and efficient the sharing of information would be. If PGE is correct that it truly
10 would be a burdensome hurdle to conduct this data exchange, then PGE
11 ownership would provide a more attractive bid than all TPOs. This could be
12 extended to all other areas of concern as well. Staff notes that this is done for
13 every other type of resource acquisition and energy storage should not be the
14 exception.

15 **Q. Would an RFP modified to allow TPO increase the time it takes to**
16 **develop the ESS?**

17 A. Not necessarily. PGE has already planned on issuing an RFP for selecting
18 specific vendors for the project.² This process could be broadened to consider
19 TPO as well.

20 **Q. Do the concerns raised by PGE justify not allowing the possibility of**
21 **TPO of Coffee Creek?**

² Initial UM1856 application, pg. 76.

1 A. Staff takes issue with a number of concerns raised by PGE, and addressees
2 them individually below. However, it is important to note that PGE has not
3 actually evaluated the possibility of TPO being beneficial.

4 **Q. PGE has not evaluated TPO?**

5 A. They have not. To evaluate any decision, both the costs and the benefits must
6 be weighed against each other; if the costs outweigh the benefits, the decision
7 should not be pursued, and vice versa. In their Rebuttal Testimony, PGE
8 appropriately highlights a number of difficulties of TPO. However, PGE did not
9 consider whether these costs of TPO might be outweighed by its benefits; the
10 company lists no potential benefits of TPO. This leaves any weighing of costs
11 and benefits up to all other parties.

12 Of course, PGE does not know how much more cost effective a TPO
13 option would be; the market for grid-level storage is rapidly evolving, and no
14 bids have been submitted. However, PGE does not acknowledge the very real
15 possibility that a third-party owner could develop and operate an ESS in a more
16 cost effective manner. In other words, to outright dismiss the possibility of TPO
17 providing net-benefits is extremely premature at this point.

18 **Q. Does PGE provide any evidence that TPO would be more expensive?**

19 A. No. PGE merely highlights in its Rebuttal Testimony that it thinks the Pomona
20 Battery example (originally raised by ICNU and NIPPC) is not applicable in this
21 case. They provide no justification as to how TPO raises expected costs. PGE
22 does highlight the increased financial risk associated with TPO, as the risk of a
23 third-party defaulting is real. Staff agrees with this point, but again does not

1 consider this an evaluation of the project: these costs could easily be
2 outweighed by its benefits.

3 **Q. Is it reasonable to believe that the costs of Coffee Creek would be**
4 **lower for TPO relative to PGE-ownership?**

5 A. Yes. Utility-scale storage is in its infancy, and firms are just beginning to gain
6 experience in supplying their customers. Economies of scale are a significant
7 driver of cost reductions, and generally are the most drastic in the early years
8 of the industry. Solar panels provide an easy example: while production and
9 installation companies continue reducing costs today, its largest gains
10 happened years ago.³ The steep cost declines happen as firms first begin to
11 develop and refine their processes to become more efficient and cost effective
12 in the early years of the industry.⁴

13 PGE is in its early years of installing and operating ESSs: it currently has
14 one 5MW/1.25MWh ESS facility. Indeed, HB 2193 (2015) aimed to stimulate
15 the nascent ESS market in Oregon, as IOUs today have little experience
16 planning, installing, and operating ESSs. Private companies, on the other
17 hand, have had a significant heads-start: Tesla deployed 143MWh of storage
18 in Q4 of 2017, and is currently building 129MWh of storage in Q1 of 2018.⁵
19 There are many other firms currently installing MWs of utility-scale storage as
20 well; it is entirely reasonable that one of these companies, with their significant

³ 'Swanson's law' observed the price of solar declining ~20% for every doubling of production (reducing by ~50% every ten years): see <https://www.nrel.gov/docs/fy16osti/65872.pdf>, pg. 28.

⁴ Consider how much better you got tying your shoe for the fifth time than the five-thousandth.

⁵ <https://www.utilitydive.com/news/tesla-plans-to-triple-battery-storage-deployments-in-2018/516782/>

1 advantages in experience and efficiency, could both build and operate the
2 Coffee Creek ESS at a lower cost than PGE.

3 Staff believes that ratepayers could potentially save a significant amount
4 from TPO; at a minimum, this issue warrants further exploration. Further,
5 PGE's lack of willingness to explore the potential for ratepayer benefit in TPO is
6 even more salient given the significant cost associated with Coffee Creek.

7 **Q. What is the estimated project cost of CC?**

8 A. Coffee Creek is estimated to cost \$7.5 million in overnight capital, and
9 ~\$44 million levelized over the 10 year estimated lifetime of the project. That
10 represents ~68% of the total cost of the UM 1856 pilots. Average yearly O&M
11 costs alone are projected to be above \$600,000 (~47% of all UM 1856 O&M
12 costs). This represents a significant capital expenditure, warrants increased
13 cost scrutiny.

14 **Q. How would PGE demonstrate that TPO shouldn't be considered?**

15 A. PGE would need to convince Staff that the likelihood the benefits (namely
16 reduced financial costs) are outweighed by the risks associated with
17 increased financial, security, and logistical costs is exceedingly small for
18 TPO Coffee Creek. By contrast, PGE merely highlights the associated
19 increased risk, and leaves any actual evaluation up to the reader.

20 Another important consideration is that we are at the beginning of the
21 resource acquisition process. Staff is wholly unconvinced that TPO should
22 not even be considered in a not-yet-designed or submitted RFP.

1 **Q. Would TPO necessarily preclude PGE achieving the same amount of**
2 **learnings as PGE-ownership?**

3 A. No. While Staff appreciates PGE's focus on the learnings from this pilot
4 project, TPO does not necessarily prevent the same amount of learning from
5 occurring. As mentioned above, PGE could agree with the third-party owner,
6 via contract, that all operational data be shared. PGE could then evaluate TPO
7 bids based on how effective PGE's learning capabilities would be. This
8 "obstacle" identified by PGE can be overcome through negotiation and contract
9 terms between PGE and the third-party owner.

10 **Q. Does Coffee Creek being located on PGE property preclude TPO?**

11 A. The Coffee Creek substation is an 8.33 acre facility, 1.25 of which is devoted to
12 the actual substation yard. The remaining 7.08 acres could fit a 20MW/80MWh
13 facility. The question of ownership could be overcome by either leasing the
14 available land to that third-party or selling part of the land.

15 PGE would appropriately label these options as 'costs' associated with
16 TPO, as it would increase complexity of the project. Again, as mentioned
17 above, it is certainly possible that the benefits associated with TPO might
18 overcome these costs.

19 **Q. Does Coffee Creek being connected to their substation preclude TPO?**

20 A. The cybersecurity aspects of TPO are concerning. PGE has stated that it
21 receives a unique intrusion attempt on their computer infrastructure on average
22 roughly every 40 seconds from China alone.⁶ While PGE does have well-

⁶ April 3 Special Public Meeting PGE Annual Update.

1 developed security, it is possible that a third-party owner of Coffee Creek could
2 have less-robust security, which could provide a 'side-door' to malicious actors.

3 To ensure that cybersecurity standards are upheld, PGE could set
4 minimum standards that would be required by any third-party bid. With an
5 effective RFP, only bids that provide at least the same level of cybersecurity as
6 PGE would be accepted. However, it is entirely possible that a third-party
7 owner, with their experience integrating ESSs onto other systems, has a
8 valuable cybersecurity approach from which PGE could learn.⁷

9 **Q. Do the complexities of TPO preclude it?**

10 A. No. To repeat the same logic as above: the complexities are simply costs of
11 TPO, which could very reasonably be outweighed by significant associated
12 with benefits.

13 **Q. Are there any changes to the competitive bidding guidelines that
14 would be applicable in this case?**

15 A. Revisions to the Commission's operative competitive guidelines are currently
16 being considered in open docket no. AR 610. While it is correct that the
17 Commission's currently adopted guidelines found in Order No. 14-149 are what
18 control at this time, Staff would call out that it is currently proposing a change to
19 the existing guidelines, requiring that all proposed ESSs with power greater
20 than 25MWh consider TPO, for substantially the same logic as presented here.

21 **Q. What is your conclusion on third-party ownership of Coffee Creek?**

⁷ The same logic can be applied to physical security.

1 A. Coffee Creek is an important component of UM 1856's storage pilots: a large,
2 substation-located ESS will provide a host of services to the grid, develop our
3 understanding of operating an ESS, and stimulate the nascent utility-scale
4 storage market. While Staff did not necessarily expect the pilots to be reliably
5 cost effective at this stage in the market, Staff should of course evaluate every
6 measure to ensure that ratepayers do not pay more than necessary.

7 It is entirely reasonable, given the rapid development of the ESS
8 industry, that third-party owners, with their greater experience installing and
9 operating ESSs, could do so more efficiently than PGE. TPO potentially
10 provides a way to reduce the overall costs associated with CC, which given
11 their magnitude, warrant increased scrutiny and competition.

12 Finally, the concerns presented by PGE in its Rebuttal Testimony only
13 present costs associated with TPO; when in fact, it is a very real possibility that
14 they are greatly outweighed by TPO benefits. Accordingly, Staff believes TPO
15 should be permitted as an option to bidders in PGE's RFP.

16 **Q. Does this conclude your testimony?**

17 A. Yes.