

PUBLIC UTILITY COMMISSION OF OREGON  
STAFF REPORT  
PUBLIC MEETING DATE: May 18, 2021

REGULAR  X  CONSENT \_\_\_\_\_ EFFECTIVE DATE \_\_\_\_\_ N/A \_\_\_\_\_

DATE: May 10, 2021

TO: Public Utility Commission

FROM: Kacia Brockman

THROUGH: Bryan Conway, JP Batmale, and Sarah Hall **SIGNED**

SUBJECT: PORTLAND GENERAL ELECTRIC:  
(Docket No. UM 2141)  
Acceptance of Flexible Load Plan.

**STAFF RECOMMENDATION:**

Accept Portland General Electric's (PGE or Company) Flexible Load Plan.

**DISCUSSION:**

Issue

Whether the Commission should accept PGE's Flexible Load Plan.

Applicable Rule or Law

In Order No. 17-386, the Commission acknowledged PGE's 2016 Integrated Resource Plan (IRP) action item to achieve 77 MW (winter) and 69 MW (summer) of aggregate demand response capacity by 2021, but directed PGE to work more aggressively to achieve the IRP's demand response high-case targets of 191 MW (winter) 162 MW (summer). The Commission also directed PGE to take actions to accelerate demand response acquisition including (i) study the market potential for demand response; (ii) establish a "Demand Response Review Committee" to provide guidance on demand response activities; and (iii) establish demand response testbed.

In Order No. 20-152, the Commission acknowledged PGE's 2019 IRP action item 1B to achieve 141 MW (winter) and 211 MW (summer) of aggregate demand response

capacity by 2025. In the order, the Commission highlighted the importance of PGE's upcoming Flexible Load Plan in light of PGE's increasing capacity needs.

## Analysis

### *Summary*

PGE filed its Flexible Load Plan (FLP or Plan) in compliance with the Commission's acknowledgement of PGE's 2019 IRP. While the FLP is a comprehensive informational filing, it proposes only one action for Commission consideration: to move to portfolio-level multiyear planning, budgeting, reporting, and cost recovery for PGE's flexible load activities. If the Commission adopts Staff's recommendation to accept the FLP, PGE will subsequently submit a portfolio-level plan for Commission approval later this year.

### *Background*

The idea for the FLP arose during PGE's 2019 IRP process, when Staff recommended that PGE submit a written summary of its plan to acquire all cost-effective distributed flexibility. Staff recommended that PGE include plans to facilitate growth in dispatchable storage, residential direct load control, residential pricing, and EV direct load control within the action plan timeframe.<sup>1</sup> Staff further suggested that the summary should provide a consolidated view of the full suite of PGE's flexible load activities and describe the feedback loop with Company's IRP process.<sup>2</sup>

PGE agreed with Staff's recommendation and committed to provide such a written summary, which the Company referred to as the Flexible Load Plan. At the time, the Company described its vision for the Plan as a "voluntary filing, intended to provide insight to the Commission on PGE's flexible load resource development activity; and additionally, to open discussion with the Commission regarding program development practices, goals, cost effectiveness, activity funding, and cost recovery."<sup>3</sup> In its acknowledgement of PGE's 2019 IRP, the Commission highlighted "the importance of PGE's flexible load plan in light of PGE's increasing capacity needs" and the need for the Plan to "advance stakeholder understanding of PGE's approach to demand-side resources as a comparable resource to supply-side capacity".<sup>4</sup>

PGE shared a draft of the FLP with Staff on June 19, 2020, and met twice with Staff prior to filing the Plan in December 2020. At Staff's request, PGE added an executive summary clarifying that the Plan contains only one proposed action: to move to portfolio-level multiyear planning, budgeting, reporting, and cost recovery for PGE's

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<sup>1</sup> LC 73 Staff opening comments at 46.

<sup>2</sup> LC 73 Staff final comments at 40.

<sup>3</sup> PGE response to OPUC Staff DR 161 (attached).

<sup>4</sup> Order No. 20-152 at 21-22.

flexible load activities. PGE held two public information sessions in February 2021 to describe the FLP and PGE's proposed Commission action and answer stakeholder questions.

On March 2, 2021, Staff requested stakeholder comments on the FLP. Written comments were submitted by Oregon Citizens' Utility Board (CUB), Northwest Energy Coalition (NVEC), Alliance of Western Energy Users (AWEC), Renewable Northwest, and Oregon Solar+Storage Industries Association (OSSIA), and Staff. PGE submitted reply comments on April 16, 2021 and supplemental comments on April 23, 2021.

*What's Included in the Plan*

The purpose of PGE's FLP is two-fold: 1) to propose a shift to portfolio-level planning that will optimize, leverage, and consolidate PGE's numerous flexible load activities across different customer sectors; and 2) to provide insight into PGE's demand response, or flexible load, planning and development activities.

This memo will first review PGE's proposal to move to portfolio-level planning and cost-recovery, then review elements of the Plan that provide insight, and finally address the Commission action of acceptance of the Plan. Relevant stakeholder comments are included in each section throughout the memo.

Staff acknowledges the significant effort by PGE to construct the FLP, and appreciates the comprehensiveness and transparency of information the Company provides in the Plan.

*Proposal: Move to Portfolio-level Multiyear Planning*

PGE is shifting from designing and managing pilots independently from each other to coordinating their development in order to optimize a portfolio of flexible load resources. To support this approach, PGE proposes to shift to portfolio-level multiyear planning, budgeting, and reporting. This proposal is described in Section 3.4 of the FLP, and outlined below. If the Commission accepts the proposal, PGE will submit a subsequent filing later in the year requesting approval of a portfolio-level multiyear plan and budget. At that time, the portfolio-level plan will be accompanied by detailed proposals for the component pilots with budgets and goals for each.

Under PGE's proposal, the Company's Integrated Resource Plan (IRP) will continue to be the source of PGE's flexible load resource acquisition goals. PGE will create a portfolio-level multiyear plan and budget to achieve the IRP goals, both near-term and longer-term achievable potential. The Plan will include goals and budget for a two-year period, and will be updated annually. The portfolio-level plan and budget will be accompanied by detailed pilot proposals with discrete budget and goals for each

targeted activity. PGE proposes to publish a draft portfolio-level plan and budget for stakeholder feedback prior to filing for Commission approval.

PGE proposes to synchronize the two-year planning cycle with that of Energy Trust of Oregon in order to enhance opportunities for joint deployment of measures that provide both energy efficiency and flexible load benefits.

During the first two years of portfolio-level planning, PGE proposes to report to Staff semi-annually on expenditures and quarterly on detailed pilot/program activity, followed by annual reporting thereafter. PGE proposes to also publish in-depth annual reports detailing results from PGE's flexible load pilots/programs during the prior year.

PGE proposes to report on the cost-effectiveness of both the overall flexible load portfolio, as well as each individual pilot and program. Impact and process evaluations of the individual pilots and programs will continue to be conducted regularly.

PGE argues that portfolio-level planning will allow for more efficient use of internal staffing resources, third-party services including the Demand Response Management System, and centralized IT infrastructure. It will also allow for a coherent customer engagement strategy that will improve the customer experience.

PGE argues that a two-year portfolio-level budget will give PGE flexibility to manage minor variances from expected activity levels across the portfolio and to take advantage of opportunities as they emerge.

Staff supports PGE's proposal to shift to portfolio-level planning. Today, PGE's flexible load activity is comprised of disparate pilots that are proposed, approved, reported, and reviewed independently from each other on different timelines. This has made it difficult for Staff and the Commission to keep track of progress and performance of all the activities and understand how they fit into PGE's overall strategy for meeting the flexible load resource needs identified in the IRP. Staff emphasizes the need for PGE's portfolio-level plan to include pilot-level detail as well. The Commission should not lose visibility to pilot-level activity; rather it should gain a portfolio-level view that relates the activity to strategic goals. Pilot-level details should include the pilot's learning objectives, barriers to be addresses, planned actions, timeline, budget, goals, path to cost-effectiveness, path from pilot to program, and evaluation strategy.

Staff also supports PGE's proposal for a rolling two-year budget. A two-year planning timeframe would offer some flexibility for PGE to adjust the timing of expenditures as needed to respond to the uncertainty inherent in developing and integrating new flexible load resources. Staff agrees that PGE's proposal to synchronize the FLP planning cycle

with Energy Trust of Oregon's planning cycle has merit, but would like to explore with PGE an alternative of synchronizing with the IRP and Distribution System Plan (DSP) planning cycles.

NWEC does not take a position on the timing or length of the planning cycle, but finds value in synchronizing with the Energy Trust and/or the DSP cycles.

Regarding stakeholder input, Staff agrees stakeholders should have the opportunity to review the draft budget and plan. NWEC finds value in the current Demand Response Review Committee, comprised of regional energy experts who provide guidance on the Smart Grid Testbed, as a forum for stakeholder feedback. RNW would like to see PGE rank activities based on public policy goals for stakeholder consideration. OSSIA suggests that PGE form a Distributed Energy Resource advisory group that includes OSSIA and Solar Oregon.

*Proposal: Portfolio-level Cost Recovery*

Currently, each flexible load pilot has a separate authorization to defer pilot costs,<sup>5</sup> and costs are recovered through an automatic rate adjustment defined in Schedule 135. In the FLP, PGE proposes to move to a new cost recovery mechanism for the whole flexible load portfolio. The Plan does not define that new cost recovery mechanism. Instead, PGE proposes to submit a proposal for cost recovery when the Company submits the portfolio-level multiyear plan later this year. If, at that time, the Commission approves an alternative cost recovery mechanism, the four separate deferral authorizations in use today would be replaced by a single accounting mechanism for the entire flexible load portfolio.

AWEC argues that the Commission should not approve PGE's multiyear plan for cost recovery outside of a general rate case.

Staff invites an alternative cost recovery proposal from PGE to streamline the current process. Staff believes deferred accounting is appropriate for pilots of limited scope and duration, but that costs for programs, with sustained annual budgets and goals, should be recovered in a general rate case, thus transferring the risk of performance to the utility.

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<sup>5</sup> PGE's current deferral authorizations are addressed in Docket Nos. UM 1514 (non-residential pilots), UM 1708 (residential pilots), UM 1827 (multifamily), and UM 1976 (Testbed).

*Proposal: Submit Testbed Phase II Proposal Ahead of Portfolio-level Plan*

The FLP describes the Smart Grid Testbed (Testbed)<sup>6</sup> as integral to PGE's flexible load product development cycle from demonstration to pilot to program. PGE has indicated to Staff that the Company plans to include Testbed activities in its ongoing portfolio-level planning, budgeting, and reporting. However, Phase I of the Testbed draws to a close at the end of 2021, and PGE is currently preparing a proposal for Phase II of the Testbed. In order to maintain momentum in Testbed activities, PGE plans to submit the Testbed Phase II proposal for Commission approval this summer, independently from and in advance of the Company's request for approval of the portfolio-level multiyear plan.

Staff supports this approach, preferring to address the Testbed as soon as possible, in light of heavy workload for PGE, Staff, and the Commission later this year with PGE's upcoming flexible load multiyear plan, first DSP filing, and general rate case.

*Insight: Relation of FLP to Other Planning Processes*

In order to evaluate flexible load resources in PGE's IRP process, the Company first performs a study of the economic potential of demand response/flexible load resources. The FLP describes increasing sophistication in the Company's modeling of flexible load potential, accounting for customer adoption models, the interactive effects between Distributed Energy Resources (DER), as well as low/high-case DER adoption scenarios. Over time, PGE expects to incorporate data from PGE's own flexible load programs into the flexible load potential rather than rely solely on national trends.<sup>7</sup>

PGE's DSP process will develop tools to model the capabilities of DERs, and will identify location-specific needs in the distribution system. This will inform PGE's strategy to test, deploy, and dispatch flexible load resources to match system needs. In turn, PGE's experience with dispatch of flexible load resources will inform the DSP modeling tools.<sup>8</sup>

*Insight: Transparency of Current Processes and Activities*

The Plan provides thorough descriptions of each of PGE's current flexible load pilots. The descriptions include market potential, pilot goals, implementation strategy, costs, results to date, and cost-effectiveness.<sup>9</sup>

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<sup>6</sup> The Testbed is comprised of a geographically-bounded set of customers served by three substations. It allows small-scale testing of high-penetration of flexible load options. In the Testbed, PGE has explored customer value propositions and integration of new technologies.

<sup>7</sup> Flexible Load Plan, Section 1.3.

<sup>8</sup> *Id.*, Section 3.9.

<sup>9</sup> See summary in PGE's Flexible Load Plan, Section 1.4, and details in Appendix A.

The Plan also describes PGE's internal processes for developing new flexible load resources and moving ideas from demonstration to pilot to program.<sup>10</sup> PGE has recently instituted a product lifecycle management framework for vetting product ideas and developing them into PGE's flexible load product portfolio. The product lifecycle management framework described by PGE includes ongoing customer-centric market assessment, strategic planning across PGE's portfolio of flexible load activities, iterative review and critique of demonstrations and pilots, stakeholder engagement, and cross-industry collaboration. PGE states that it has updated its internal organizational structure to establish governance and accountability for product lifecycle decisions.<sup>11</sup>

NWEC supports PGE's adoption of the term "flexible load" to replace "demand response" to describe customer resources with potential value beyond peak capacity. NWEC agrees with the FLP's emphasis on customer engagement, since the utility's success in flexible load acquisition depends on customer awareness, acceptance, and action. NWEC supports PGE's plan for cross-industry collaboration due to the likelihood future regional markets could factor into PGE's planning.

RNW agrees with the Plan's emphasis on decarbonization as the driver for PGE's flexible load planning. RNW strongly supports the stage gates established within PGE's product lifecycle management framework to ensure consistency in how programs are evaluated.

Staff is similarly supportive of PGE's product lifecycle management framework, and has observed significant improvement in PGE's pilot design and evaluation since the framework and associated organizational changes were adopted.

*Insight: Cost-effectiveness*

The FLP includes an in-depth explanation of the cost-effectiveness methodology currently used to evaluate demand response/flexible load activities.<sup>12</sup> The Plan also includes an analysis of three modifications to the cost-effectiveness assumptions, as requested in the final Staff report on PGE's 2019 IRP.<sup>13</sup> These modifications include using the same base values as energy efficiency, assigning a capacity value equivalent to a non-emitting, dispatchable resource, and eliminating value of lost service as a cost.

The Plan describes actions PGE plans to take to improve cost-effectiveness of pilots that are not yet cost-effective. The Plan also explores the various grid services that flexible load may provide in the future.

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<sup>10</sup> PGE's Flexible Load Plan, Sections 2.2 to 3.2.

<sup>11</sup> *Id.*, Sections 3.3 and 3.5 to 3.7.

<sup>12</sup> *Id.*, Chapter 4.

<sup>13</sup> See Docket No. LC 73, Final Staff Report dated February 27, 2020, page 14.

PGE states in the Plan that the Company does not suggest any changes to the cost-effectiveness methodology at this time. Rather it presents the information on cost-effectiveness for transparency, as requested by the Commission, and to demonstrate the maturity of PGE's understanding of flexible load value and cost-effectiveness considerations. PGE notes in reply comments that the Company looks forward to discussing new cost-effective methodologies, including those being explored in Washington, with Staff and stakeholders.<sup>14</sup>

NWEC suggests that some changes to the cost-effectiveness methodology may be warranted, and in particular recommends reassessing the value of service lost and not just relying on the California protocols. OSSIA suggests that battery storage brings unique values to the utility that should be considered in the cost-effectiveness modeling.

Staff appreciates PGE's responsiveness to Staff's request for analysis of different cost-effectiveness assumptions in the FLP. Staff plans to request that the Commission open an investigation into flexible load/demand response cost-effectiveness rather than addressing cost-effectiveness of PGE's programs in isolation.

*Insight: Actions to Promote Equity*

The FLP briefly describes work PGE has undertaken in the Testbed to study and address equity issues. PGE has deployed personnel in the Testbed to engage underserved communities and inform program design to achieve equitable participation.<sup>15</sup>

OSSIA calls for an increased focus on equity and noted that some flexible load options – particularly solar, storage, and electric vehicles – are cost prohibitive for many customers. NWEC comments that successful flexible load acquisition depends on willing participation by customers, and that customers need to be appropriately compensated for system value. Staff notes that the outreach being done in the Testbed is providing valuable learnings about community engagement that should be considered in all pilots and programs.

*Insight: Considerations for Future Development and Integration of Flexible Load Resources*

Throughout the FLP, PGE describes various ideas for future consideration. Examples include utility vs. third party delivery of flexible load programs,<sup>16</sup> a regulatory earnings mechanism for utility investments in flexible load,<sup>17</sup> the utility's need for access to

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<sup>14</sup> See Docket No. UM 2141, PGE's Reply Comments dated April 16, 2021, page 4.

<sup>15</sup> Flexible Load Plan, Section 1.2.3.1.

<sup>16</sup> *Id.*, Section 3.8.3.

<sup>17</sup> Flexible Load Plan, Chapter 5.



customers' device data,<sup>18</sup> demonstration of new technologies such as smart inverters,<sup>19</sup> and new market strategies including measure bundling, new construction, and district energy.<sup>20</sup> However, PGE states clearly in the FLP that the Company is not seeking Commission action on those ideas at this time.

#### *Commission acceptance*

In the FLP, PGE recommends Commission acknowledgement of the Plan. In PGE's reply comments, PGE agreed with Staff's recommendation that the Commission accept rather than acknowledge the FLP. In other planning processes, acknowledgement indicates that the Plan meets the filing requirements and appears reasonable. Acceptance does not include an assessment of reasonableness.

Commission acceptance of the FLP will indicate 1) that PGE has met the expectations set by the Commission in the 2019 IRP process for the FLP to provide significant insight into PGE's flexible load planning process; and 2) that the Commission accepts PGE's proposal to submit a subsequent filing requesting Commission approval of a portfolio-level multiyear plan, budget, and cost recovery for the Company's flexible load activities.

Commission acceptance of the FLP will not indicate endorsement of any other ideas or changes to established practices proposed in the Plan. Instead, any such changes will be considered as part of a future portfolio-level plan submitted for Commission approval by PGE or in a separate investigation, such as the cost-effectiveness methodology.

NWEC, RNW, CUB, and OSSIA all supported Commission acceptance of PGE's FLP. AWEC was silent on acceptance of the plan, with its comments focused narrowly on cost recovery.

#### Conclusion

Staff finds that PGE's FLP filing complies with the expectation established in Order No. 20-152, the Commission's acknowledgement of PGE's 2019 IRP, for increased visibility into PGE's flexible load planning process and acquisition strategy. Staff has observed that the newly-implemented product lifecycle management framework described in the Plan and PGE's embrace of Staff's pilot-to-program guidelines have already resulted in significant improvement in PGE's pilot design and evaluation.

Staff further supports PGE's proposed action in the Plan to move to a rolling two-year portfolio-level plan and budget that includes pilot-level details. This approach will satisfy

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<sup>18</sup> *Id.*, Section 3.1.

<sup>19</sup> *Id.*, Section 3.11.

<sup>20</sup> *Id.*, Section 3.3.

Staff's and the Commission's desire for consolidated reporting and approval of flexible load activities, and should allow PGE to be more nimble and efficient in the Company's management of those activities. It should additionally encourage PGE to take near-term actions to develop long-term flexible load resources to meet the Company's increasing capacity need.

Staff again acknowledges PGE's substantial effort invested in the FLP, the transparency the Plan offers to the Commission and stakeholders, and the organizational and process changes PGE has undertaken to demonstrate the Company's commitment to flexible load resources.

**PROPOSED COMMISSION MOTION:**

Accept Portland General Electric's Flexible Load Plan.