

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

Docket No. UM 2141

In the Matter of ·

Portland General Electric

Flexible Load Plan.

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Comments of

NW Energy Coalition

The NW Energy Coalition (NWECC) is pleased to provide the comments below on the Flexible Load Multi-Year Plan 2022-2023 filed by Portland General Electric (PGE).

NWECC appreciates the comprehensive and thorough content of the Multi-Year Plan. This represents a significant step forward in the process that began with demand response pilot programs a decade ago and subsequent activities including PGE's Smart Grid Reports, Smart Grid Testbed, Distribution System Plan and the Flexible Load Plan.

Overall, NWECC views the Multi-Year Plan as providing a balanced, forward looking and realistic strategy for advancing flexible load toward being a fully developed resource for operational use and to provide a wide range of customer benefits. The plan fully recognizes that there are uncertainties in many aspects of this complex undertaking. It also provides ongoing focus for learning and narrowing options to bring the most productive programs and supportive system elements to scale.

Here we raise a few specific issues, noting that many more important points will be under discussion as the flexible load strategy continues to progress.

**Coordination.** NWECC agrees with the Multi-Year Plan's discussion of the value of ongoing coordination with the Energy Trust of Oregon, Northwest Energy Efficiency Alliance and the SALMON project (p. 34), universities, NREL and PNNL.

Further, we encourage PGE to engage with other utilities, service providers, manufacturers, etc., in regional efforts to coordinate work on flexible load development. The Advanced Water Heater Initiative is one ongoing example. We also see significant new interest across the Northwest in new planning and program development, for example at PacifiCorp, Puget Sound Energy, Avista and Energy Northwest.

PGE is ahead of many in both planning and implementation, but we know from experience in the development of the modern Northwest energy efficiency capability that knowledge-sharing accelerates the uptake of new customer side resources.

**DER Study.** NWECC recognizes that refining the potential contribution of DER resources necessarily is an evolving process. We appreciate the detail and clear explanation provided in

the Multi-Year Plan, while recognizing this has to be coordinated across several processes, including the forthcoming DER Study to be filed in August 2022 with the second phase of the Distribution System Plan.

**Net Load Impacts.** We appreciate the discussion of the interaction between DER availability and load growth starting on p. 15. As significant new demand enters the system from transportation and building electrification, this illustrates the increasing value of maximizing both energy efficiency and flexible load development going forward.

**Demand Response Potential.** While the revised DR potential assessment conducted by the Company along with Cadeo and the advisory committees shows a reduction compared to the 2019 IRP assessment (p. 17), NWEC is confident that the overall potential is significantly larger. However, we agree with the approach of rolling in new findings from the Smart Grid Testbed and other programs and demonstration projects to make sure the estimates are grounded in empirical findings. This underscores the importance of continuous reassessment as the many uncertainties in flexible load buildout are resolved, and we again note the effect that new policy and guidance will have.

**DR and EE.** NWEC is also strongly supportive of the joint effort by PGE, NEEA and ETO to coordinate work for flexible load and energy efficiency, both in assessment and program delivery.

**PGE Marketplace.** The Marketplace (p. 28) is an interesting new initiative. NWEC is very supportive of an approach that doesn't merely provide a retail channel for products but is also connected directly to customer program participation and services. It would be helpful in future reports to provide more detail about the design objectives, business principles and evaluation and modification process for the Marketplace.

**Grid-Integrated Water Heating.** We strongly agree with PGE's emphasis on GIWH as a flexible load resource that has major year-round and diurnal potential and yet relatively limited effect on customer hot water use if properly managed. We have two questions about the presentation.

First, the metrics for market potential (p. 43) are not entirely clear. Electric water heaters typically have a 4.5 kW heating element (or backup for heat pump water heaters), representing instantaneous demand. With a peak coincidence factor of perhaps 10%, the estimated peak load reduction would be about 0.5 kW per unit (somewhat less for HPWH, which also provide substantial energy efficiency and inherent peak reduction).

If, assuming a 12-year unit life (and setting aside factors such as new residential construction and the saturation of HPWH), all 148,000 current residential electric water heaters are replaced at a constant rate of about 12,300 per year, that implies an annual market potential of 6 MW of peak load reduction. Given the universal availability of CTA-2045 enabled water heaters within the next few months and going forward, it would help to understand why the discussion assumes only 74,000 households would adopt the measure with a load shifting potential per unit of 0.09 kW in the summer and 0.17 kW in the winter.

Second, for the single family water heater demonstration project (p. 42), it is not clear why the communications methods to be tested include Wi-Fi, cellular LTE and a mesh radio frequency network but not, for water heater unit dispatch, RDS (FM subcarrier). In the 2018 field test sponsored by the Bonneville Power Administration and NEEA along with PGE, the FM subcarrier method proved to be efficient, robust and cost-effective, and may have significant cybersecurity advantages, while the Wi-Fi method for data backhaul resulted in a noticeable amount of deficiencies and customer dissatisfaction.

**Cost Effectiveness Methodology.** NWEC supports the timeliness of revising the cost effectiveness framework relating to flexible load programs and activities, as initially mentioned on p. 11 and then described in more detail later in the document. We agree with importance of doing so in the context of the expanded policy relating to resilience, decarbonization, community-based planning and investment policy directed by Gov. Brown, the Legislature and this Commission. Our initial reaction is generally favorable to the Company's proposal for a staged development for program components as they mature, from a deferral approach to an intermediate stage with a supplemental rate schedule and a balancing account, to only a supplemental schedule in the mature program phase, and we look forward to further discussion and refinement.

This concludes NWEC's comments. We look forward to further discussion and development of the Flexible Load Multi-Year Plan.

Respectfully submitted,

/s/

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