March 26, 2021

To: Oregon Public Utility Commission

Re: Docket No. UM 2141 – Portland General Electric Company, Flexible Load Plan

Comments of NW Energy Coalition

The NW Energy Coalition (NWEC) appreciates this opportunity to provide comments on the Portland General Electric (PGE) Flexible Load Plan, initially submitted on December 23, 2020 and now incorporated into Docket No. UM 2141.

Rather than a section by section comment, here NWEC provides a thematic review of some key areas, noting that fully responding to this comprehensive 200-page document will require additional in-depth discussion with stakeholders and the Public Utility Commission as outlined by Staff in the March 2, 2021 invitation for comment.

We start by congratulating PGE for a major new development in the long national process of mobilizing demand flexibility for grid operations and customer value. This filing will rightly be seen as setting a new high bar for a truly comprehensive and integrated approach to the flexible load resource, which has been credibly assessed by a national study[1] of potentially providing up to 20% of system needs during peak periods.

1 Acceptance of the Flexible Load Plan

NWEC recommends that the Commission accept the Flexible Load Plan, as recommended by Staff, rather than acknowledgement as requested by PGE.

Acknowledgement has a longstanding meaning and context within the Commission's Integrated Resource Planning process and the IRP guidelines, typically including preliminary workshops, formal filing and review through rounds of stakeholder comments, data requests and Commission workshops, and finally an order by the Commission acknowledging a filed IRP in

[1] Hledik et al. (2019), The National Potential for Load Flexibility: Value and Market Potential Through 2030, https://brattlefiles.blob.core.windows.net/files/16639_national_potential_for_load_flexibility_-_final.pdf

whole, in part, or not at all. Furthermore, acknowledgement has a formal meaning with relation to the Commission's separate contested case process for cost allocation and recovery.

NWEC believes that, as an informational filing, acceptance is the appropriate action for the Flexible Load Plan, while the process for the forthcoming consolidated filing proposed by PGE – including its multiyear flexible load development plans, associated multiyear budget and cost recovery – should be considered further as this docket proceeds. Part of the consideration will be the relationship between the consolidated filing and the forthcoming 2021 PGE IRP.

NWEC has a question concerning PGE's intention for the process going forward. At one point, PGE proposes bi-annual budget updates for the first two years and annual budget updates thereafter, but a different section proposes an annual budget in rolling two-year periods on the same cycle as the Energy Trust. NWEC does not have a position on either approach at this point and suggests that further review is needed of the relationship between the consolidated flexible load program, the work cycle of the Energy Trust of Oregon, the ongoing development of the Distribution System Plan, and other relevant processes.

2 Flexible Load

NWEC strongly supports PGE's use of the term "flexible load" (or in the alternative, flexible demand). While "demand response" (DR) can conceptually cover the range of flexible load management activity, its longstanding meaning is confined to what is also called peak load reduction, leaving out the many other capabilities of a flexible load strategy. We don't object to using DR as a parallel term where that is convenient, but consider this an important change of terminology to widen the scope under consideration.

Furthermore, NWEC considers flexible load and particularly the concept of the Virtual Power Plant (VPP), discussed below, to be one form of a broader category of "composite resources" that have multiple components operated as a unified whole to provide resource value to the electric system. Other composite resources include hybrids (such as solar+battery and many other combinations) and microgrids.

3 Customer Partnership

The Flexible Load Plan lists five key attributes: (1) customer experience; (2) program parameter and infrastructure stability; (3) grid performance; (4) financial performance; and (5) dispatch integration. NWEC agrees with these and particularly supports "customer experience," perhaps better stated as customer engagement, as the first in the list.

PGE highlights that, in contrast to earlier DR programs elsewhere that relied primarily on large commercial and industrial peak reduction, most of its flexible load resources will come from residential and small commercial customers. "Sourcing DR from residential and small commercial customers requires certain program adaptations. Before program launch, PGE must invest in educating a broader customer base. Program offerings must be simple, acceptable, stable, and convenient."

PGE notes that the Flexible Load Plan "is a demonstration of PGE's commitment to a new type of resource development and new procurement practices with the goal of building advanced flexible load programs through a customer centric partnership."

The filing notes a "focus on customer engagement, which is centered around identifying customer-centric solutions that empower customers to decarbonize and electrify, while controlling costs . . . PGE's Testbed includes numerous research efforts that target customer engagement, identify customer preferences, and address energy system inequities."

Further, "PGE also believes that deployment of flexible load solutions can help address environmental justice and equity challenges. Flexible load programs, by their nature, are accessible to all PGE customers regardless of socioeconomic demographics. Yet, without intentional efforts to build equity into our development and deployment of flexible load solutions, systemic energy inequities will persist, including a high energy burden for low-income customers."

We highlight these statements because they indicate that PGE well understands that success of the Flexible Load Plan depends just as much on customer awareness, acceptance and action as it does on the comprehensive development work done on the utility side. NWEC believes this is an opportunity to lay the foundation for a new, more integrated and productive relationship where customers not only receive service but are full partners in providing and being compensated for system value.

4 Portfolios and Project Lifecycle Management

PGE states, "For a flexible load resource to reach maturity, it must be aligned with, and integrated into, PGE's real time operations... Consequently, PGE now views the integration of the DR resource into real time operations as a necessary factor in determining whether a DR pilot has matured to a program."

NWEC strongly supports the integrated development approach for flexible load identified in the filing. This may be the most important aspect of the Flexible Load Plan, since DR measures elsewhere – even where they are mature and have significant saturation – are typically treated as separate programs for operation, customer engagement and regulatory purposes.

In the PGE filing, flexible load integration is founded on two concepts: the Virtual Power Plant (VPP) and the Product Lifecycle Management (PLM) process.

The VPP terminology is clumsy but, after starting in Europe some years ago, is now well established. We would also note that composite resources like flexible load should ideally provide better services for the grid than power plants, which have various limitations such as startup and shutdown costs, ramp rate limitations and minimum run rates (Pmin). That said, developing and operating a range of flexible load resources in integrated fashion to provide a range of services as needed at the bulk energy system and distribution system levels is a powerful concept.

NWEC is concerned, however, about ambiguity in PGE's conception of the VPP. At some points VPP is presented as a system resource, but in others it is explicitly defined as linked to substations, with a separate VPP for each one.

For example, one part of the filing states, "PGE is building DR and flexible load with an end-state in mind whereby flexible loads act in concert, aggregated at the substation level; this concept has been dubbed a 'Virtual Power Plant'. Virtual Power Plants are unique to the assets behind the substation; in other words, a Virtual Power Plant's operational profile is limited by the specific flexible load technologies that are aggregated at each substation."

But at a later point, the filing notes, "A Virtual Power Plant operates to service energy needs below the substation on the distribution system and energy needs above the substation on the bulk energy system."

We think this may be confusing scope with implementation, and that a more formalized definition of VPP is needed. On a system basis, a flexible load VPP is the sum of dispatchable customer-side resources, but on an operational level some may be well be dispatched at a substation level, although that would not be the case for "behavioral" programs such as Peak Time Rebate.

The second component of flexible load integration is the stage-gated Project Lifecycle Management process from demonstrations, to pilots, to programs. NWEC applauds PGE for a very clear and effective description of how this concept applies in practice to flexible load development.

The filing also touches on important consequences of an integrated approach for program development and delivery: "PGE is moving from a product-by-product approach towards bundling products for delivery in each target market... Bundling allows individual products to share delivery infrastructure and drives down the relative cost-per-acquired flexible load device for the Virtual Power Plant."

NWEC agrees with this perspective, and in fact some of the most valuable learning so far in the Smart Grid Testbed is the complexity and importance of providing a coherent set of offers to customers for participation across multiple program components.

5 Flexible Load Program Delivery

Program delivery for flexible load resources can be accomplished directly by the utility, by third-party providers, or by a combination. NWEC has several questions about the approach to these issues in the Flexible Load Plan.

The filing states, "PGE recognizes that it cannot be as effective and efficient in supporting its customers in their drive for connected, flexible, and decarbonized load without policy and regulatory evolution that specifically allows for PGE to actively engage in building flexible load behind the meter."

NWEC would like further elaboration from PGE about whether its intention is to offer behind-the-meter equipment and services to customers. We do not have a firm position on this question but recognize that it raises a range of questions about competition, customer support, liability, regulatory reach, cost recovery, and so on.

In Section 3.8.3, the filing makes a strong case that third party delivery of flexible load resources should be suppressed or subsumed into direct utility-managed programs: "The development and optimization of flexible load is a partnership between PGE, the Commission, and our customers. Inserting another entity between PGE as the grid operator and our customer as the provider of flexible load, threatens the optimization, value, and the rate of the resource build. Having overall responsibility for incorporating flexible load into the portfolio allows PGE to strategically partner with third parties in ways that leverage their capabilities without introducing inefficiencies. PGE's envisions partnerships with third parties playing a key role in an efficient, effective flexible load ecosystem. Maintaining an integrated system allows PGE to harness the real-time operational capabilities of these resources."

The filing goes on to describe shortcomings in previous arrangements with external providers for its pilot DR programs as well as extended discussion of problems elsewhere. But we also think the presentation on problems, particularly in California, is incomplete and does not draw the right conclusions. In fact, California has a number of new entrants providing DR services, especially leveraging the participation of residential and commercial customers to achieve previously unseen scale by employing both automated dispatch and customer response, that go beyond the simple peak load reduction of the traditional large commercial and industrial DR. These providers are testing and perfecting customer engagement approaches that utilities may not be well suited to provide.

In addition, California is struggling with an overlay of program and market products and rules from several waves of DR program development over two decades that make participation exceptionally complicated and risky for third party providers. But things are beginning to change; on March 25, the California PUC approved a Proposed Decision that takes an initial step toward streamlining and opening a clearer pathway for DR providers.

In Oregon, we are starting with close to a clean slate. We certainly agree with PGE that any third party program delivery must be tightly coordinated with utility operations and directly managed flexible load programs. And we have recently had informal discussions indicating that PGE may in fact have a more capacious view of the role of third party providers.

NWEC believes that finding the right balance between the incentives and motivations for the utility, third party providers and customers, all playing an active role in a fully mature flexible load strategy, will take time, and it is important not to start with restrictions on what can be on the table for consideration and further development.

6 Planning and Coordination

At multiple points, the Flexible Load Plan touches various parts of the context for program planning and coordination. We commend PGE for its forward-looking view and comment on a few of those aspects here.

Stakeholder engagement is always a key part of program planning, but it has heightened importance for flexible load resources requiring customer awareness, participation and compensation. The approach the Flexible Load Plan summarizes is reasonable and clear, including but not limited to the Demand Response Review Committee and Demand Response Advisory Group.

NWEC emphasizes the importance of further opening those and other planning efforts to direct participation by community based organizations, in addition to deployment of traditional methods such as surveys and focus groups. We especially commend PGE for recognizing that barriers to participation can be addressed, especially for historically excluded stakeholders, and that community advocates should be compensated for their unique consultation.

We also strongly endorse PGE's positive efforts to engage with other utilities (PacifiCorp in particular) and organizations at the state, regional and national level including the Northwest Energy Efficiency Alliance, Energy Trust of Oregon, Northwest Power and Conservation Council, GridFWD, PLMA, EPRI and so forth. This is important not only for information exchange and learning, but because demand response supports regional resource adequacy and that the underlying markets for flexible load products and services are also inherently regional.

Furthermore, the PGE/customer partnership for flexible load not only will provide direct value in terms of utility system operation, but as recognized in the filing, can also provide regional flexibility, a revenue stream and improved Northwest and western grid reliability via the Energy Imbalance Market, the proposed Extended Day Ahead Market and possibly a full western system operator.

PGE notes the importance of leveraging codes and standards to enable grid connectivity. As we are seeing with adoption of the CTA-2045 communications standard, this can unlock tremendous value and dramatically increase the scale and decrease the cost of flexible load resources.

In fact, NWEC believes that in due course, the importance of a comprehensive flexible load resource at scale should lead to a broad approach to interconnection standards requiring that any new electric end use device that can be managed should be grid-manageable, though not all such load will actually be managed due to customer preference, economics or other reasons. As we look to a future with substantial transportation electrification and building decarbonization, this is an increasingly urgent matter.

The filing gives extensive consideration to the relationship between flexible load program design and planning with other processes, particularly the Integrated Resource Plan. PGE notes the importance of relying more on direct assessment rather than third party studies, though that effort will require new methods compared to traditional resources and an incremental approach over several planning cycles.

NWEC also commends PGE for making the connection between flexible load and energy efficiency development. It is important to align these efforts, in part to give customers a cohesive set of choices for participation and to reduce effort and cost duplication overall. As noted, this also provides an opportunity for blending EE and flexible load elements to maximize system value.

Finally, program evaluation is an important part of the context for program planning and development. NWEC appreciates the discussion in the filing, but hopes PGE will provide more detail about its expectations on how process and impact evaluation will feed back into ongoing program design, and not just serve as an *ex post* assessment of program performance.

7 Data Sharing, Security and Accountability

A major set of concerns that is only briefly touched on in the filing relates to data. As with any component of utility operations, deployment and operation of flexible load resources requires a substantial and growing amount of data. The unique feature of flexible load is that a substantial portion of the data must traverse boundaries for the utility, any third party

provider, and customers alike. This raises unique challenges concerning ownership, access, security, privacy and accountability. Issues of Commission jurisdiction are necessarily involved as well.

The Flexible Load Plan touches on some findings already observed from DR pilot programs, indicating the barriers that currently exist for utility access to standard device data for participants enrolling grid-connected devices into PGE programs.

A recent presentation by the Regulatory Access Project[2] touches on the regulatory context for data access and anonymization issues raised in the PGE filing. Because flexible load programs are uniquely dependent on this kind of data exchange, addressing these issues is now an urgent matter and NWEC encourages the Commission to consider workshops or other review and development processes, if not a full formal docket, to address and start to resolve these matters.

8 Cost Evaluation and Recovery

NWEC appreciates the extended discussion of cost evaluation and allocation in Chapter 4 of the Flexible Load Plan. We also thank Staff for the proposal that the Commission open a future investigation into the methodology for calculating cost-effectiveness of demand response/flexible load activity for all utilities. That said, we hope such an effort would align with and not delay PGE's proposal to move from the conceptual approach in the Flexible Load Plan to implementation via filings in this docket or otherwise.

We only wish to note one overarching concern, which is whether flexible load programs should be assessed purely by the traditional cost-effectiveness approach as employed for energy efficiency programs, or alternatively the traditional reference plant capacity valuation. NWEC believes a new direction may be needed, perhaps combining elements from various approaches.

For example, EE valuation assumes that the resource is continually available, while some modes of flexible demand activation may occur rarely but have very high value.

And concerning the avoided-cost reference plant approach to capacity value, as the filing notes and we have also emphasized here and elsewhere, flexible load resources have a different

[2]Nancy Seidman and John Shenot, "Open Data Access Standards: Approaches in Other Jurisdictions," Minnesota Public Utilities Commission Technical Conference, February 26, 2021, https://www.raponline.org/knowledge-center/open-data-access-standards-approaches-other-jurisdictions/

profile where comparison to traditional generating units may undervalue their system contribution.

Finally, while the analysis of "value of service lost" in the filing makes reference to a method used in California, we believe that consideration of that element of flexible load also needs reassessment.

_____

This concludes our comments. Once again, NWEC commends PGE for a major new perspective on fully developing the flexible load portion of customer side resources, for both system value and customer value. We request that the Commission accept the filing and give direction to PGE to proceed immediately with the next phase of this process.

/s/

Fred Heutte
Senior Policy Associate
NW Energy Coalition
fred@nwenergy.org