

Affiliated Tribes of Northwest Indians
AirWorks, Inc.
Alaska Housing Finance Corporation
Alliance to Save Energy
Allumia
Alternative Energy Resources Organization
Ameresco
American Rivers
Backbone Campaign
Beneficial State Bank
BlueGreen Alliance
Bonneville Environmental Foundation
Byrd Barr Place
Citizens' Utility Board of Oregon
City of Ashland
City of Seattle Office of Sustainability & Environment
CleanTech Alliance
Climate Smart Missoula
Climate Solutions
Community Action Center of Whitman County
Community Action Partnership Assoc. of Idaho
Community Action Partnership of Oregon
Earth and Spirit Council
Earth Ministry
Ecova
eFormative Options
Energy350
Energy Savvy
Energy Trust of Oregon
Environment Oregon
Environment Washington
EQL Energy
Forth
Global Ocean Health
Home Performance Guild of Oregon
Housing and Comm. Services Agency of Lane Co.
Human Resources Council, District XI
Idaho Clean Energy Association
Idaho Conservation League
Idaho Rivers United
Interfaith Network for Earth Concerns
League of Women Voters Idaho
League of Women Voters Oregon
League of Women Voters Washington
Montana Audubon
Montana Environmental Information Center
Montana Renewable Energy Association
Montana River Action
National Center for Appropriate Technology
National Grid
Natural Resources Defense Council
New Buildings Institute
Northern Plains Resource Council
Northwest EcoBuilding Guild
Northwest Energy Efficiency Council
NW Natural
OneEnergy Renewables
Opower
Opportunities Industrialization Center of WA
Opportunity Council
Oregon Energy Fund
Oregon Environmental Council
Oregon Physicians for Social Responsibility
OSEIA
Pacific Energy Innovation Association
Pacific NW Regional Council of Carpenters
Portland Energy Conservation Inc.
Portland General Electric
Puget Sound Advocates for Retired Action
Puget Sound Cooperative Credit Union
Renewable Northwest
Save Our wild Salmon
Seattle City Light
Seinergy
Sierra Club
Sierra Club, Idaho Chapter
Sierra Club, Montana Chapter
Sierra Club, Washington Chapter
Small Business Utility Advocates
Smart Grid Northwest
Snake River Alliance
Solar Installers of Washington
Solar Oregon
Solar Washington
South Central Community Action Partnership
Southeast Idaho Community Action Partners
Spark Northwest
Spokane Neighborhood Action Partners
Sustainable Connections
The Climate Trust
The Energy Project
Transition Missoula
UCONS, LLC
Union Of Concerned Scientists
United Steelworkers of America, District 12
Washington Environmental Council
Washington Local Energy Alliance
Washington Physicians for Social Responsibility
Washington State Department of Commerce
Washington State University Energy Program
YMCA Earth Service Corps
Zero Waste Vashon



NW Energy Coalition
for a clean and affordable energy future

August 16, 2019

From: NW Energy Coalition

To: Oregon Public Utility Commission

Comments on Portland General Electric Company's 2019 Smart Grid Report, UM 1657

The NW Energy Coalition (NVEC) appreciates the opportunity to provide comments in response to the 2019 Smart Grid Report filed by Portland General Electric (PGE)..

Maturity of the Smart Grid Reports

NVEC commends PGE for a comprehensive and well organized report, the sixth in a series beginning in 2013 under UM 1460. However, the roots of the smart grid report process go back a decade, and we also commend the Commission for launching the initiative and providing steady guidance.

During the past decade, the PGE's approach to this effort has advanced well beyond "smart grid" as a collection of relatively separate efforts to test and assess the incorporation of new control and communication technology into grid operations, to a much more comprehensive approach that now also includes a three guiding principles, organization of initiatives into clusters, completion of some task areas, and more integration across the assemblage.

The 2019 report not only updates all the pieces but also provides important documentation and a starting point for the oncoming effort to develop a distribution system plan, or as PGE sometimes refers to it, an integrated grid plan.

The effort over the past decade has resulted in some very visible successes (the Salem Smart Power Center and the CTA-2045 grid integrated water heater test, to name two), but NVEC also highlights the progress made across many other elements with significance going forward. These include system controls and communications, such as remote sensing data acquisition and analytics (item 6.2(c)) and the initial stages of the Field Area Network (item 6.3), to name only two.

The Smart Grid reports have also summarized and facilitated rapidly maturing initiatives on time of use pricing, transportation electrification and the interim stage of storage development (UM 1857).

While most of the effort is focused on the distribution system, with a strong component of readiness for interaction with customer equipment and collaborative change in usage patterns, we do not want to overlook important smart grid developments for generation and transmission, some of which have already facilitated PGE's successful entry into the Western Energy Imbalance Market and the proposed Enhanced Day Ahead Market.

Transition to Distribution System Planning and Flexible Load Strategy

These linked efforts are particularly important because they expand PGE's ability to organize and deliver on its emerging flexible load strategy. With a significant shift in the PGE resource mix following retirement of the Boardman coal plant at the end of 2020, and looking forward to various requirements under SB 1547, the PGE Testbed initiative and other program efforts, PGE now has a clear roadmap moving rapidly from a long gestation period of assessment, testing and pilots to transitional and full-scale programs.

This effort will not only directly mobilize PGE's grid assets, even more importantly this opens up untapped potential for more flexible supply and demand generally. This will add options and capabilities across the company, from grid operators to field representatives, building on early success and accelerating PGE's decarbonization strategy.

Finally, we expect these developments to continue providing benefits to customers and to develop new opportunities for customer engagement. In that regard, we note that several of the smart grid components now have significant field experience with separate evaluations of progress and customer engagement and participation, and it may be time to provide an interim summary or meta-evaluation. Further, PGE is considering and testing a number of new customer engagement ideas, particularly in the PGE Testbed.

In the broader context of utility planning, the smart grid reports as now considered are mature, and the emphasis is shifting toward formal distribution system planning (UM 2005). We think there is value in continuing periodic summaries similar to the smart grid reports within the DSP context. While some elements are further along in the project development cycle than others, now is the time to shift to implementation at full scale.

We also thank PGE for a concise summary of its initial approach to UM 2005 in the 2019 report starting on p. 61, including the continued elaboration of the three smart grid foundational principles: (1) Clean & Green; (2) Equitable & Affordable; and (3) Reliable.

Four Challenges

In particular, NWECC would like to highlight four oncoming challenges. First is **resource adequacy and peak load reduction**. This is not only a factor with Boardman closeout but also the ongoing reliability risk of summer peak conditions because of the constraints on the South of Allston transmission path.

While the Bonneville Power Administration has made progress in more flexible operation of the path (including updating its approach to available transmission capacity), the joint owners of the path (BPA, PGE and PacifiCorp) should be engaging in more coordination on reducing peak demand as well as grid operations. Reducing peak space and water heating load is already underway with PGE's new time of use rates, smart thermostat demand response program and the CTA-2045 enabled grid integrated water heater programs, among others. We believe there could be value in coordinating similar efforts with BPA and its customer utilities (Clark PUD, Forest Grove, Canby, etc.) and PacifiCorp to address the joint concern with the South of Allston path.

The second challenge is **accommodating additional renewable energy** in PGE's resource mix, both at utility scale and on the customer side. The balancing and integrating capabilities of battery storage and water and space heat demand management are front and center due to their low cost, inherently clean nature and fidelity in responding to dispatch. Many smart grid elements contribute to this effort, and now the question is how to achieve scale and fully integrate demand side flexibility into grid operations for balancing and reliability.

The third challenge is **engagement with local governments** in PGE's service territory to develop and deepen joint efforts for system resilience – including seismic, wildfire, windstorm and other events -- and other public purposes, including climate goals and policies. Among the efforts covered in the report are the Distributed Storage for Community Resiliency (PREPHub, section 6.5(i)) and Connected Communities (6.3(o)). While briefly mentioned in the 2019 report, we hope PGE and local governments will increase those efforts and invite greater public engagement.

The fourth challenge is widening the engagement with customers and communities beyond basic market segmentation to a **more in-depth approach built on an equity perspective**. We appreciate PGE's evident commitment and concrete early steps to address this challenge. We are impressed, for example, with the designation of three staff, one per substation area, to community engagement in the PGE Testbed.

Equity is going to pose a rising challenge but also is a major opportunity, because a flexible load strategy must reflect the variations in local conditions across the system, and not merely provide undifferentiated program offerings, in order to achieve full program saturation. Because all customers pay for the system, it is important to address those local variations while assuring that all customers receive equitable benefits, including a full opportunity to participate in programs.

Where appropriate, low income and disadvantaged community customers must also be given additional attention, program design options and incentives to achieve these outcomes. To name one example, the buildout of transportation electrification and EV charging must insure that all communities across the PGE service territory receive those services on a timely and equitable basis.

NWEC is committed to working with PGE and other stakeholders to expand the efforts for both local government and community engagement, because in the end, these are crucial for achieving the full value of the flexible load strategy. We encourage PGE to continue building out a collaborative effort for community response and participation based on the shared goals of reliability, clean energy and affordability, all with full incorporation of an equity perspective.

Additional Comments

NWEC appreciates the summary tables in the Appendices, showing stable results for reliability metrics, and particularly the breakout by service subarea we requested some years ago (Tables 19-22).

On the availability of demand response, callable DR is currently about 0.60% of peak winter load and 0.74% of peak summer load (Table 26). NWEC is optimistic those numbers can be increased by more than an order of magnitude over the next decade. The resource potential to do so has been clearly identified, so success will hinge on coordination between rate design and program configuration, customer-oriented program offerings and engagement, and the robustness of PGE's internal operations to support a complex but valuable programmatic and operational effort touching nearly every part of the company.

On the historical trends for developing the demand response resource, we are encouraged by progress for residential customers but are concerned about the post-2017 fallback for the commercial sector. While we understand that a couple of specific customer situations were involved, it is important to strengthen commercial DR going forward. As PGE has recently noted, with a lower industrial load percentage than many utilities in the east, we will need a lot more emphasis on both the residential and commercial sectors to achieve the full potential of flexible load.

Thank you for your consideration of NWEC's comments.



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