

To: Oregon Public Utility Commission
From: Max Greene, Renewable Northwest
Micha Ramsey, Dr. Micha Ramsey Consulting, LLC
Date: August 21, 2020

**Re: Investigation into Distribution System Planning, Docket No. UM 2005
Response to Stakeholder Questions for August 25 Special Public Meeting**

Renewable Northwest (“RNW”) appreciates the opportunity to provide comments regarding distribution system planning (“DSP”) in response to Staff’s August 3, 2020 Stakeholder Questions for August 25 Special Public Meeting. We begin with a recommendation that the Commission and Staff apply a systems-thinking approach to DSP, then offer responses to Staff’s prompts (presented here in streamlined form). We hope these comments are helpful and look forward to participating in the Special Public Meeting.

Overall: Systems thinking

Systems thinking provides us with principles and tools to understand how systems work, why they behave as they do, and how interconnected systems affect each other in many, often surprising, ways. Systems thinking allows us to gain a holistic perspective, enabling us to become architects of new systems and to be more deliberate in our actions to achieve our goals.

To put things more concretely, a system is a set of elements interconnected in order to achieve a specific function or purpose. A system’s behavior over time is a result of its structure. Examining a system through the lens of its component parts and their interdependencies -- as well as through the lens of the broader systems of which the system itself is an element -- can provide a conceptual framework for analyzing complex problems and designing informed solutions. For example, the principles of system architecture can be applied to the challenge of modernizing the electric grid.¹ Grid architecture provides the disciplines and methodologies to enable a systems view of the power grid and the ability to share that perspective with stakeholders. With this systems view of the current grid, one can gain insight into how some of the barriers to grid modernization are actually structural in nature as well as how to develop new grid architecture scenarios based on desired future grid qualities.

RNW recommends grounding the DSP process in systems thinking. The electric grid, and the distribution system within it, are intimately tied into our societal, economic, and terrestrial systems. The complexity of how these systems interact is why systems thinking is crucial to

¹ Taft, JD and Becker Dippmann, A. [Foundational report on Grid Architecture for the Quadrennial Energy Review](#), PNNL, 2015.

developing a DSP process. Without a holistic view, this docket may result in distribution systems that evolve counter to long-term needs and policy goals. We appreciate that, to date, Staff have worked to understand the elements, connections, and purposes that make up a utility distribution system -- in fact, it is possible to find each reflected in the questions below. We offer the above observations as a frame for structuring continued engagement with DSP.

1. What kind of baseline data & system information should be included in the first utility DSP plans to help parties reach a shared understanding of the current state of distribution systems?

There appears to be consensus or near-consensus among Oregon DSP stakeholders and experts across the country that DSP can and should support or even accelerate decarbonization. In order to achieve this outcome, we recommend that distribution system plans include baseline data regarding utility greenhouse gas (“GHG”) emissions. Ideally these data will be sufficiently granular to identify the relative GHG benefits of different distribution-system infrastructure including distributed energy resources (“DERs”) such as solar and storage.

We also recommend that data include the relative monetary costs of different distribution-system infrastructure including traditional poles and wires and modern elements ranging from DERs to aggregation technology; in this case, identifying both individual component-level costs and aggregated costs (and net costs) will be important, as multiple modern components may be co-optimized to save costs and yield greater benefits.

Likewise, stakeholders will need access to information about the expected life of existing distribution-system infrastructure. This information may be helpful as stakeholders consider where to propose modernization efforts.

Similarly, stakeholders will need information regarding the capacity of existing infrastructure both to transmit energy from the bulk power system to end-users and to transmit energy from DERs to the bulk power system. This information should be paired with data regarding loads and current energy flow from DERs to the bulk power system.

Finally, all of the above data categories should be correlated with data regarding customer demographics including race and income to ensure that modernization benefits and system costs are distributed equitably. Additionally, it would be helpful if all of the above data categories were presented in a consistent format to facilitate stakeholder understanding and third-party analysis.

2. When considering the first utility DSP plans, is a “bottom-up” DER/EV forecasting methodology worth the cost when compared to a “top-down” forecasting methodology?

RNW would like to see a hybrid approach. Top-down forecasting can help manage cumulative uncertainties that may arise from extrapolating localized data to the system-wide level. However, bottom-up forecasting provides crucial localized data that capture the heterogeneity of different neighborhoods, communities, and cities, including local electrification plans and/or decarbonization goals and demographics. We recommend that elements of both approaches be incorporated into DER forecasting in an iterative approach where one can inform the other.

Standardization of data and analysis methodologies to address issues like maximizing locational benefits and minimizing incremental DER costs is part of a foundational framework for DSP. Collecting data now that can be leveraged in the future will enable utilities to improve their DER forecasting capabilities as adoption curves change.²

3. When considering the first plans utilities file, what are likely to be the best uses for HCAs, and in what ways would your organization use them? What form of data presentation would your use benefit from (e.g. raw, tabular data or visualized on a map)?

RNW will likely use HCAs to understand the opportunity for DERs in a given area. We also understand that HCAs can inform how to determine and allocate interconnection costs; accordingly, HCAs may be useful in discussions regarding utility interconnection processes. We recommend access at minimum to both raw and map-visualized data.

4. How could a Community Engagement Plan and process lead to improved distribution project outcomes for residents, business owners, and stakeholders in impacted areas? When should community engagement around a project begin?

RNW defers to our community-based organization partners on this question. We understand that the Northwest Energy Coalition has been working to aggregate feedback from a number of community-based organizations.

5. In what ways do stakeholders foresee DSP affecting utilities' current business model? Do these represent incentives to pursue DSP, or barriers? Are there changes that need to be made to Oregon's approach to regulation in order to succeed at advancing DERs cost-effectively?

As we have indicated throughout this docket, DSP offers the opportunity to explore performance-based regulation under the Alternative Form of Regulation statute as the Commission recommended in its SB 978 report. Non-capital investments that facilitate DER adoption, support grid modernization, and accelerate decarbonization at a lower cost than traditional pole-and-wire solutions may be disadvantaged under current utility business models.

² Paul DeMartini, *More Than Smart: A Framework to Make the Distribution Grid More Open, Efficient and Resilient* (2014), available at <https://resolver.caltech.edu/CaltechAUTHORS:20140814-141806869>.

Identifying desired policy outcomes -- in particular, achieving GHG-reduction targets and meeting the priorities of underserved communities -- and compensating utilities for achieving those outcomes would benefit all energy-system stakeholders (which is to say, everyone).

Traditional distribution-system infrastructure tends to be long-lived, so it is particularly important that investments in new infrastructure support long-term policy goals. Climate science now predicts global temperature rise will most likely exceed 2°C, so decarbonization at a faster pace than seems possible is imperative.³ To achieve this goal, future power grids will likely be defined by a decentralized and multi-directional exchange of energy, services, and compensation. These grids will function in a fundamentally different way than current grids, a change that will significantly affect utilities' business models and likely require new approaches to regulation.

6. What are your reactions to the overarching goals below? How are your needs reflected or missing? Do you recommend changes?

RNW would like to reiterate that a systems thinking can provide valuable insight and unique solutions. Alignment of all stakeholders on key goals is deeply important, and numerous systems-thinking tools can be leveraged to help diverse stakeholders find agreement.⁴

- 1. Promote distribution-system reliability, safety, security, quality & efficiency for all customers.*
- Reinforce our existing mission, targeted for the distribution system but also updated for security, whether physical or cyber.*
 - Facilitate investment to reduce costs over time and promote system efficiencies.*
 - Enable best and highest possible uses of the distribution system to benefit customers & utilities.*

We support a focus on reliability, safety, security, quality, and efficiency in DSP.

- 2. Be customer-focused and promote inclusion of underserved communities.*
- Empower all customers with authentic choices, including access to diverse providers.*
 - Create inclusive, nondiscriminatory, equitable access to opportunities across customer types, with particular attention to those that reduce energy burden.*
 - Engage customers in an approachable, fully-accessible manner.*
 - Provide access to detailed, real-time information on electricity use and costs to help customers manage use and costs and understand how to save.*
 - Create procedural inclusion for new stakeholders traditionally not represented.*

³ Sherwood, S. et al. (2020) An assessment of Earth's climate sensitivity using multiple lines of evidence, Reviews of Geophysics doi.org/10.1029/2019RG000678

⁴ Erin Gray, Madeline Tyson, and Charlie Bloch, Rocky Mountain Institute, *Systems Mapping: A Vital Ingredient for Successful Partnerships* (Aug. 17, 2020), available at <https://rmi.org/systems-mapping-a-vital-ingredient-for-successful-partnerships/>.

- *Promote collaboration between utilities and community based organizations to broaden perspectives and representation in planning process and outcomes.*

We support a focus on inclusion and appreciate Staff’s efforts to identify supporting principles. We recommend that “procedural inclusion” begin at the initiation of DSP processes, continue to the processes’ conclusion, and include opportunities for stakeholders to affect outcomes.

3. Ensure optimized operation of the distribution system.

- *Minimize total distribution system costs for the benefits of all customers.*
- *Consider advanced technologies & opportunities with future promise of lowering system costs.*
- *Promote fair competition in resource options including third-party delivery of programs and services with the best options for customers.*
- *Provide justification for the customer benefits resulting from system investments.*

We support a focus on optimized operation of utility distribution systems, including minimizing costs and considering the use of advanced technologies and on a technology-neutral basis. We observe that identifying and implementing this focus may require significant changes from traditional DSP efforts and must be viewed through a lens of Oregon’s decarbonization goals, accounting for the costs and risks associated with climate change.

4. Accelerate integration of DERs and other clean energy technologies.

- *Fair cost allocation and fair compensation for services and benefits provided to and by customers, and other non-utility service providers.*
- *Present transparent data re: system operations & characteristics, including GHG implications.*
- *Enable and streamline utility co-investment in the grid for decarbonization.*

We support a focus on DER and clean-energy integration. In addition to “transparent data about ... greenhouse gas implications,” we recommend a focus on identifying cost-effective strategies to achieve the GHG emission reductions called for in Governor Brown’s EO 20-04. We specifically recommend GHG emission reductions as system goals that could be rewarded with performance incentives for achieving certain metrics.

5. Strive for regulatory efficiency through aligned, streamlined processes.

- *Focused, strategic reporting that enables efficient regulatory response.*
- *Consistency and synchronization across related utility planning efforts.*

We appreciate Staff’s proposal to include regulatory efficiency as a final focus and support consistency and synchronization of DSP and other planning efforts.

[signature page follows]

Respectfully submitted,

/s/ Max Greene

Regulatory & Policy Director
Renewable Northwest
421 SW Sixth Ave. #975
Portland, OR 97204
(503) 223-4544

/s/ Micha Ramsey

Dr. Micha Ramsey Consulting, LLC