



August 21, 2020

Distribution Planning Staff Oregon Public Utility Commission

RE: Response to Stakeholder Questions for August 25, 2020 Special Public Meeting discussion

Dear Mr. Nick Sayen,

Thank you and all of the OPUC staff for thoughtfully conducting this open docket on Distribution System Planning. The comprehensiveness of differing stakeholders, transparency in all the participation among parties and forward-thinking in approach to address the online-format to the proceeding is inspiring for future dockets to follow the model.

TeMix Inc. represents a paradigm shift to traditional operations in the entire Electrical Power System. Our demand-side approach is economically sound, rooted in fundamentals that enable equity across every stakeholder in the EPS system; prime movers, load-serving entities, and end-use participants of all income levels, and utilizes secure edge-computing technology to safely interact with each of the parties.

Having already proven the model in other jurisdictions, we are interested to share the insight and best practice in Oregon's DSP proceeding to help incorporate this equitable solution. Attached is our response to the questions proposed to the stakeholders in preparation for the next Special Public Meeting.

Respectfully,

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/s/ Stephen MacDonald

We are pleased to participate in providing answers to the upcoming meeting. Please see the following, and we are always open to further providing insight on any matter.

1. A foundational element of DSP is establishing the current state of the grid through baseline data. Currently this baseline data is largely recorded, analyzed, utilized, and maintained by and within the utilities. Reporting this baseline data in the utilities' filed plans will help broaden understanding of the state of the distribution systems. This will be especially important in the first distribution plans utilities file. Staff asks for stakeholder feedback in response to the following question:

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

- TeMix Inc's looks to address the questions that fit our background and expertise

2. An additional foundational element of DSP is forecasting future scenarios, such as an increased peak load, or a load with greater variability, to determine how the distribution system responds to these projected scenarios. Currently utilities forecast future loads and peak demands, often at the substation and circuit level, but without including distributed energy resources (DERs). Instead, DER forecasting is included in the Integrated Resource Planning (IRP) process as a reduction to the long-term load forecast, and without being attributed to specific locations on the distribution system. Expanding current forecasting to include DERs and electric vehicles (EVs) with a locational aspect would allow a more rigorous and broad examination of potential future conditions the distribution system may face. Staff understands there are a number of ways to forecast DERs and EVs with a locational aspect, and these come with different costs and benefits. For example, a "bottom-up" DER/EV forecasting methodology may use some form of customer adoption modeling beginning at a granular level (e.g., a neighborhood), which is then aggregated up to the whole system; a "top-down" forecasting methodology may forecast quantity of DER/EVs at the system level, and then allocate amounts down to more granular levels of the system. Staff asks for stakeholder feedback in response to the following question:

When considering the first utility DSP plans, is a "bottom-up" DER/EV forecasting methodology worth the likely additional cost when compared to a "top-down" forecasting methodology? Why or why not?

- Comprehensive forecasting is premature because the information would be based on current tariff structures – that do not reflect dynamic tariffs. With increasing EV, storage and solar adoption, the loads on the existing circuit will vary substantially on current conditions. As a result, any forecasting methodology cannot produce accurate or useful results. In order to address this problem, it is our position, that implementing a dynamic tariff that can interact with pool pumps, storage devices, EVs and other 'smart' asset (for residential or business) is the first step to enabling an accurate forecast model.

3. Hosting Capacity Analysis (HCA) provides benefits by identifying the amount of DERs that can be accommodated in an area of the distribution system without adversely impacting power quality or reliability under current conditions. HCA practices currently vary across utilities. Staff understands that the granularity of HCA necessitates trade-offs. For example, the more granular the analysis, the longer it takes, the more expensive, and the more useful it may be. The less granular, the less time it takes, the less expensive, and the less useful. Staff asks for stakeholder feedback in response to the following questions: 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? For example, to screen projects (as a partial substitute for interconnection studies)? To help utility customers understand the general state of their feeder? For researching the overall opportunity for DERs in a given area?

What form of data presentation would your use benefit from (e.g. raw, tabular data or visualized on a map)?

- As with most capacity analysis defining hosting capacity is difficult and often misleading. For example, with distributed storage, both charging and discharging assumptions are necessary and the storage likely will not be fully controlled or controlled at all by the grid operators. Better to first deploy real-time and forward pricing with transactive tariffs that all self-dispatch of storage, EVs, HVAC, electric water heaters and then base forecasts on the deployed tariffs and observed and estimated responses.
- OPUC has a unique opportunity in this Docket matter to address this dynamic tariff before more solar, storage, and EVs are connected to the distribution grid. Oregon need look no further into the effects of waiting too long than to learn from the mistakes of our neighbors to the south. CA has debated moving to real-time tariffs for 20 years as customers continued to purchase these systems. By not implementing dynamic tariffs CA now is faced with supply/demand imbalances that are the cause of current rolling blackouts throughout the state.

4. The distribution system is often closer and more visible to the public than a central generation station or remote transmission line, so distribution system projects have potential to impact homes and businesses directly in day-to-day life. One way to minimize potential impact of distribution projects to homes and business is for utilities to create and implement a Community Engagement Plan to proactively engage residents, business owners and stakeholders likely to be impacted by proposed projects. Engagement of the local community might include: accessible, in-person meetings located in the impacted area; presentation of the project scope, timeline, and rationale; co-creation of solutions to distribution system needs; and public comment, particularly to understand community impacts, needs, and preferences. Community-based organizations (CBOs) that support local, historically underserved communities have an important role in DSP. Because DSP is locational planning, CBOs can offer insight that informs utility forecasting of technology deployment and emerging solution use-cases in underserved communities, and provide input to the utility on the methodology used in the DSP process to identify and prioritize distribution system investments. During the detailed planning phase, CBOs may be an effective partner with utilities in ensuring successful implementation of customer sited non-wires solutions identified in the DSP plan. Staff asks for stakeholder feedback in response to the following questions:

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? What is a practical “project threshold” to determine which projects warrant this? What metrics, evaluation and reporting should be required? How might the PUC support utilities to develop and showcase projects co-created with community partners?

- TeMix fully supports and understands the importance of community engagement, and respectively suggests that one aspect is education and development of a wide-consensus around the need for dynamic tariff and the tools to protect customers from bill volatility and address equity.
- In identifying the project thresholds, an approach is to leverage Tax dollars already allocated and work with ETO’s BYOT team as well as New Buildings to identify projects that have been completed to find participants that would like to engage with the new dynamic tariff and automated response projects.

- The CBO's mission should be to help foster the education events and participant demographics are meeting the most equitable user-base as possible. The metrics would be participants involvement, number of devices per participant (respectively), and then outcome of each participant as the project is being ran.
- The Utility can work to develop the tariff so all customers types (residential, commercial, and industrial plus low-income) are represented.

5. DSP seeks to provide insights into, and facilitate new uses of, the electrical system, and so represents a change to the way that utilities currently plan and do business. DSP implementation will benefit from careful consideration of the following: incentives supporting implementation, barriers or downsides to implementation (including perspectives from all parties), and any ways in which utility regulation should be modified in order to best accommodate implementation. Staff asks for stakeholder feedback in response to the following questions:

In what ways do stakeholders foresee DSP affecting utilities' current business model? Do these represent incentives to pursue DSP, or barriers? Are there any changes that need to be made to Oregon's approach to regulation in order to succeed at advancing DERs cost-effectively? Which barriers and uncertainties to long-term DSP are most significant from your perspective?

- This is a great question and has many answers (depending on the direction the OPUC and its' Staff determine the focus of DSP should be) however, under the TeMix approach the solution is meant to make all stakeholders engage differently than in the past; focused on equity of the system.
- By implementing TeMix demand-side the following stakeholders engage as such:
 - OPUC and Staff:
 - Design new dynamic transactive tariff structures so the tariff participation on the demand-side reaches 100%, and that provides full cost-recovery to Load-Serving Entities and Distribution Operators.
 - Load-Serving Entities and Distribution Operators:
 - Work to engage with the EIM market more seamlessly and provide real-time information on circuit loading and capacity to all parties in order to meet their RPS goals
 - Device Owners (end-customers):
 - Work to adopt the dynamic transactive tariff and devices that are interfaced with the dynamic tariff.

6. Through the course of this investigation, Staff has facilitated ongoing stakeholder feedback to express the highest-level principles and values for DSP planning, and the distribution system. Reflecting this feedback, Staff proposes the following overarching, long-term goals for the DSP process and distribution system in Oregon. Staff asks for stakeholder feedback in response to the following questions:

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

1. Promote the reliability, safety, security, quality, and efficiency of the distribution system for all customers.

- Reinforce our existing mission, targeted for the distribution system but also updated for security, whether physical or cyber.
 - The level of care OPUC and its Staff has approached the DSP docket involving security was centric in the various conversations. It should be noted by using (current) created open standards and edge-computing technology will ensure the solution meets the best security.
- Facilitate investment to reduce costs over time and promote system efficiencies.
 - The level of stakeholder engagement has certainly progressed the docket in manner to adopt/leverage best practice for integrating tech to support cost benefit.
- Enable the best and highest possible uses of the distribution system, to benefit customers and utilities.
 - The docket has look broadly to leverage other territory response to again react the optimal CBA to stakeholders.

2. Be customer-focused and promote inclusion of underserved communities.

- Empower all customers with authentic choices, including access to diverse providers.
 - The presentations have had a great range of stakeholder representation.
- Create inclusive, nondiscriminatory, equitable access to opportunities across customer types, with particular attention to those that reduce energy burden.
 - The open dialogue has been productive at achieving webinar participation.
- Engage customers in an approachable, fully-accessible manner.
 - The webinars had great QoS.
- Provide access to detailed, real-time information on electricity use and costs to help customers manage use and costs and understand how to save.
 - The dedicated website and email response was great.
- Create procedural inclusion for new stakeholders traditionally not represented.
 - The increase ways to participate has increased greatly.
- Promote collaboration between utilities and community-based organizations to broaden perspectives and representation in planning process and outcomes
 - Not sure we saw this presented during the docket.

3. Ensure optimized operation of the distribution system.

- Minimize total distribution system costs for the benefits of all customers.
 - We think the exploratory effort shown in the docket proceedings will help achieve this
- Consider advanced technologies and opportunities with future promise of lowering system costs.
 - We heard them take a broad spectrum from tech options but, certainly there are others that could be discovered
- Promote fair competition in resource options including third-party delivery of programs and services with the best options for customers.
 - The Docket exploratory to pilot recommendations has had some challenges to be transparent.
- Provide justification for the customer benefits resulting from system investments.
 - This could have more transparency like the previous sub-bullet.

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.
 - Exploring the market design and tariff to capture the integration optimally needs to continue to explored.
- Present transparent data about system operations and characteristics, including greenhouse gas implications.



Transactive Energy Services

- Not sure we saw this presented during the docket.
- Enable and streamline utility co-investment in the grid for decarbonization.
 - We would like to see a regulatory sandbox.

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

- Focused, strategic reporting that enables efficient regulatory response.
 - It would be good to focus on allocating funds for the IOUs (as CA does with EPIC) that allows these utilities implement projects (that are Key to DSP) without having to go through the long drawn out process to get it into the rate-case.
- Consistency and synchronization across related utility planning efforts.
 - This is an on-going matter but, we would suggest mandating an IT/OT team (of the IOUs) present a cross-functional report relating to DSP-centric topics to integration.