Waiting Room

One moment please, while we wait for people to join

Song by artist:

Lumpy

[Snorkel – Lumpy]

Please use the QR code to check-in:
[Name and Organization]

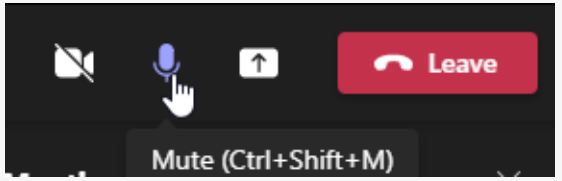
Meeting Logistics

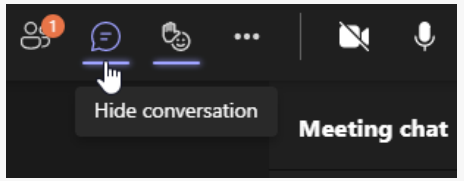
Teams Meeting

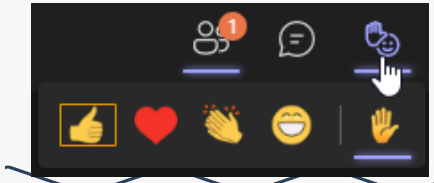
- Please click the meeting link sent to your email or Click here to join the meeting
  - +1 971-277-2317 (dial this number into your phone for best results)
  - PW: 885 018 032#
- Please use **Microsoft Edge** or **Google Chrome** with Teams as it will give you the best experience

During the presentation:

- All attendees will be muted; to unmute yourself via computer, click on the microphone that appears on the screen when you move your mouse
- To unmute yourself over the phone, **press *6**
- If you call in using your phone in addition to joining via the online link, please make sure to **mute your computer audio**
- Use the chat feature to share your comments and questions.
- Raise your hand icon to let us know you have a question







Agenda

10:30 – 10:35 am - Opening Remarks (5 minutes)

10:35 – 11:00 am - DSP Part 2 Roadmap (25 min presentation)

11:00 am – 12:00 pm – DSP Part 1 Report Office Hours (60 min Q&A)

Quick Updates!

Please visit us at www.portlandgeneral.com/dsp

You can email us at: DSP@pgn.com

Online Feedback Form

Important dates:

- OPUC procedural dates
  - **Friday, Dec 3, 2021, 4 pm** (Pacific) – Deadline for written public comment
  - **Friday, Dec 10, 2021 – 9 am – 12:00 pm** (Pacific) - Staff workshop to receive public comment
  - **Thursday, Feb 24, 2022** – Special Public Meeting:
    - IOUs present DSP Part 1,
    - Staff make recommendation to the Commission, and
    - Commission considers Acceptance of Part 1 filings
- Monday, Aug 15, 2022 – DSP Part 2 filing date

DSP Partners Mailing List

We will be cleaning our DSP Partners Mailing list

You will receive a series of three emails to opt out of the mailing list

November 2021	December 2021	January 2022

DSP Mailing List sign up form

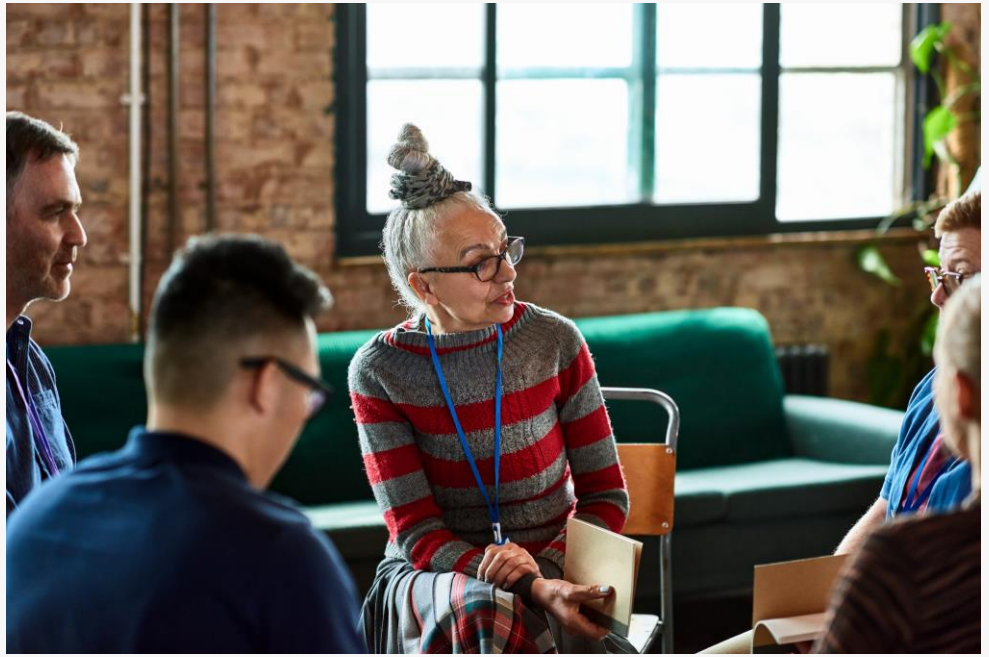
Operating Agreements

Establishing norms with our communities is foundational to building trust.

To create a safe space, we establish **common agreements** such as **respect** and **inclusivity**.

Practice curiosity and **seek to understand different perspectives**

- **Stay Engaged**
- **Experience Discomfort**
- **Speak your Truth (knowing it's only part of the truth)**
- **Expect and Accept Non-closure**
- **Share the Airtime. Step up, Step back.**

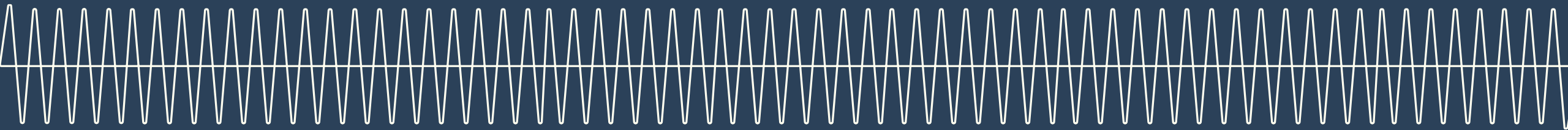


The courageous conversations framework
By Glenn Singleton and Curtis Linton

Distribution System Planning (DSP) Part 2: Introductions and Roadmap

Angela Long, Manager, Distributed Resource Planning (DRP)

November 10, 2021 | Workshop 9



Introductions

PGE Introductions

Angela Long
Manager, Distributed Resource Planning

Distributed Resources Planning Team

Andy Eiden
Sr. Strategy & Planning Analyst

Nihit Shah
Sr. Strategy & Planning Analyst

Bachir Salpagarov
Strategy & Planning Analyst

Misty Gao
Strategy & Planning Analyst

Distribution System Planning Team

Joe Boyles
Project Designer

Shadia Duery
DSP Project Manager

Diversity, Equity and Inclusion (DEI)

Jenn Latu
Sr. DEI Community Outreach Consultant

Jennifer Galaway
Manager, Distribution Planning

Justin Graff
Principal Distribution Planning Engineer

Aaron Banks
Sr. Distribution Planning Engineer

Cameron Van Leuven
Sr. Distribution Planning Engineer

Luke Depiesse
Sr. Distribution Planning Engineer

Amrit Rajagopal
Distribution Planning Engineer

Josh Davis
Distribution Planning Engineer

Eben Udeh
Distribution Planning Engineer

Your PGE Teams – DSP: Part 2

Load Forecast and DER and EV Adoption

- Distributed Resources Planning
- Diversity, Equity, and Inclusion
- Distribution Planning
- Grid Products and Integration
- Interconnection

Grid Needs Identification

- Distributed Resources Planning
- Distribution Planning
- GIS
- Interconnection
- Distribution Operations

Grid Needs Solution Identification

- Distributed Resources Planning
- Distribution Planning
- Diversity, Equity, and Inclusion
- Grid Products and Integration

Near-term Plan

- Distributed Resources Planning
- Distribution Planning
- Grid Products and Integration
- Diversity, Equity, and Inclusion
- Grid Modernization

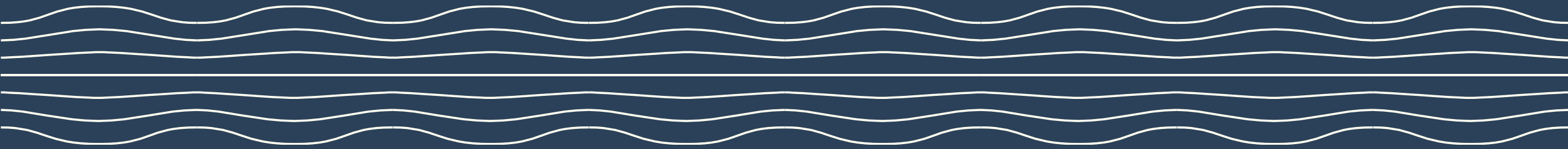
Why Are We Here?

DSP Part One Recap

DSP Part Two Summary and Request

Next Steps

DSP Part One Recap



DSP Part One

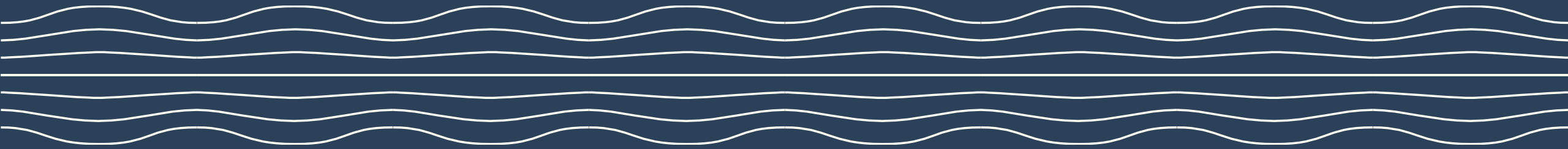
Filed October 15, 2021

Corporate Strategy	**Decarbonize**		**Electrify**		**Perform**
DSP Vision	**21st century community-centered distribution system**				
DSP Goals	**Advance environmental justice goals**		**Accelerate DER adoption**		**Maximize grid benefits**
DSP Strategic Initiatives	**Empowered communities** Enabling equitable participation in the clean energy transition through human-centered planning and community engagement	**Modernized grid** Optimizing a grid platform that is safe, secure and reliable through current and future grid capabilities	**Resilience** Strengthening the grid's ability to anticipate, adapt to, withstand and quickly recover from disruptive events	**Plug and play** Improving access to DER investments needed to accelerate customers' clean energy transitions through such activities as hosting capacity analysis	**Evolved regulatory framework** Evolving the regulatory framework needed to support utility investment in customer- and community-centered solutions

DSP Part One – Key Strategic Actions

Empowered communities	Modernized grid	Resilience	Plug and play	Evolved regulatory framework
• Human-centered Planning • Community Engagement Plan	• Customer ecosystem (data and access) • VPP • Planning & Engineering tools • Grid Management Systems (ADMS, DERMS, OMS, DRMS) • Sensing, Measurement, and Automation (SCADA, CVR, FLISR) • Telecommunication (AMI, FAN, cellular) • Physical Grid Infrastructure (IOC, poles and wires) • Cybersecurity (firewalls, physical security)	• Customer Infrastructure (community resilience centers) • PGE Infrastructure (Mt Hood Improvements) • Operational (End-to-end assessment process)	• Distributed generation map • Hosting Capacity Analysis (HCA)	• Key policy interactions such as: - HB 2021 (100% Clean) & - HB 2475 (Energy burden) • Key regulatory activities such as: - Cost-effectiveness & - Inverter-based DER generation

DSP Part Two Summary



DSP Part Two Requirements Summary

Due August 15, 2022

Forecasting of Load Growth, EV/DER Adoption

- Describe **current state for Load Forecast** – process, tools, data
- DER/EV:
  - Forecast methodology and geographic allocation
  - **Adoption by substation** - high/med/low scenarios
  - Forecast of load growth and adoption

Grid Needs Analysis

- Document process to assess grid adequacy and identify grid needs
- Discuss criteria used to assess reliability and risk – methods and modeling tools used
- **Present prioritized constraints publicly**, including prioritization criteria and timeline to resolve constraints

Solution Identification

- Document process for identifying the range of solutions to address grid needs
- **For each need, describe the data used to support investment decisions**
- For large projects, describe process for engaging communities and getting input
- **Propose 2 NWS pilot projects**

Near-term Action Plan (2-4yrs)

- Provide 2-4 yr. plan to address grid needs
- **Disclose planned spending, timeline and recovery mechanism**
- Discuss relationship between planned investments
- Discuss pilots being conducted to enhance the grid

Goals of DSP Part Two

Community Engagement

- Two-way flow of information

- Co-created education material

- Continued partnerships with community experts

Metrics & Data

- Resilience metrics for customer and utility

- Socio-economics

- Demographics

- Cost-benefit analysis

DER Resource Planning

- Adoption analysis for climate change, policy and market transformation

- DEI analysis

- Estimated impacts of electrification adoption

Portfolio Analysis

- Cost-effective DER

- Environmental and social justice community

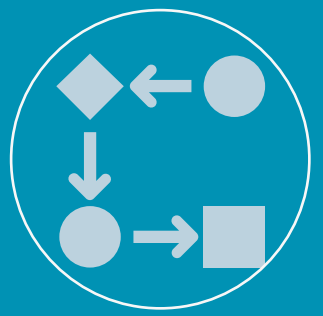
- Resilience/Outage

- High DER adoption

Project Timeline

Planning: Developing the approach to address Part 2 requirements

Oct - Dec 2021



Executing: Co-creating an inclusive Distribution Planning process

Jan - May 2022

Reporting: Documenting the process changes and the plan to enact them

Jun - Aug 2022

Filing DSP Part 2

Aug 15, 2022

DSP Part 2 Response Considerations

Current internal capital planning cycle

2023 funding communicated in **February**

Load forecast delivered in **April**

Capital projects proposed in **June**

Project approval in **July**

Co-developing new processes

Identification of **community needs**

Incorporation of **new datasets** into needs/solution identification

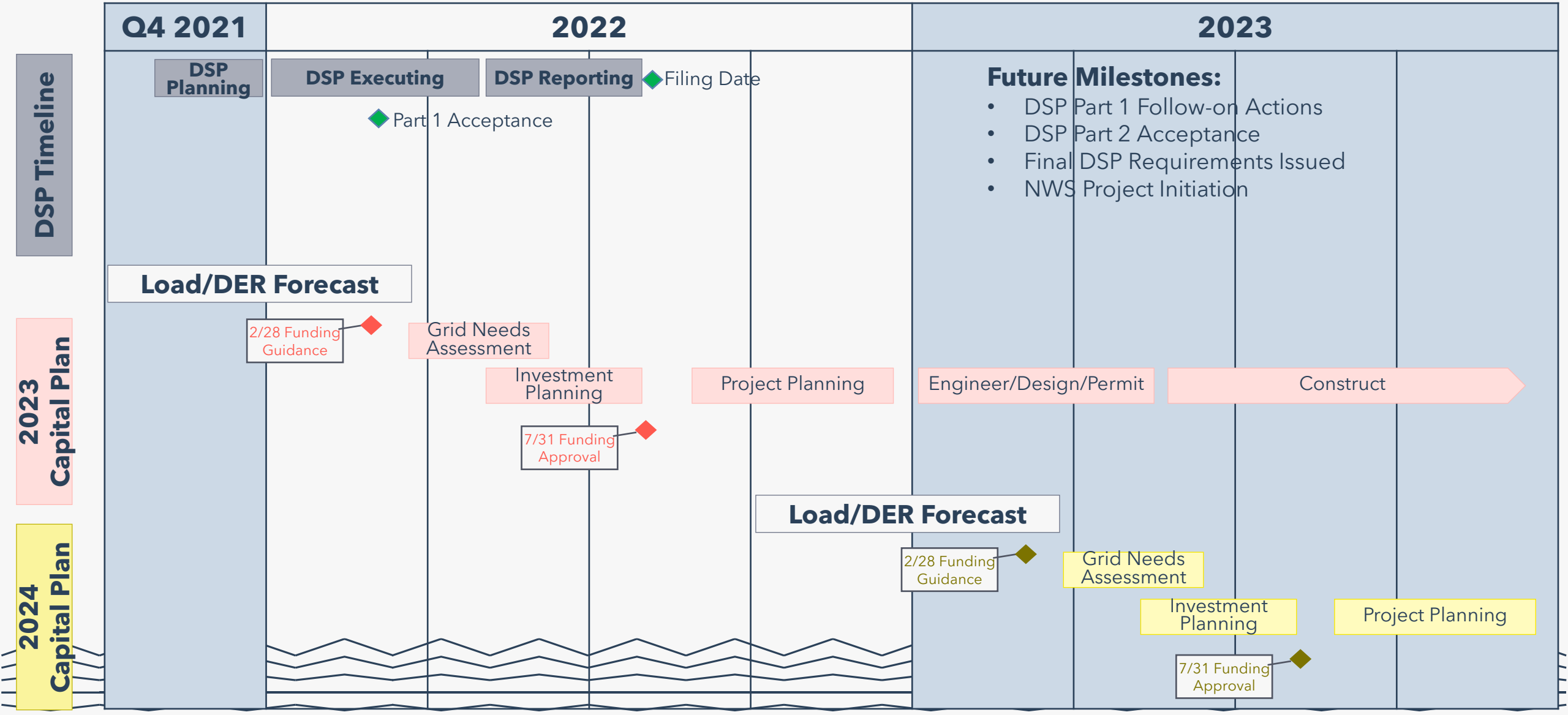
Public review of investment recommendations

Guiding Principles

Take the time to do it well

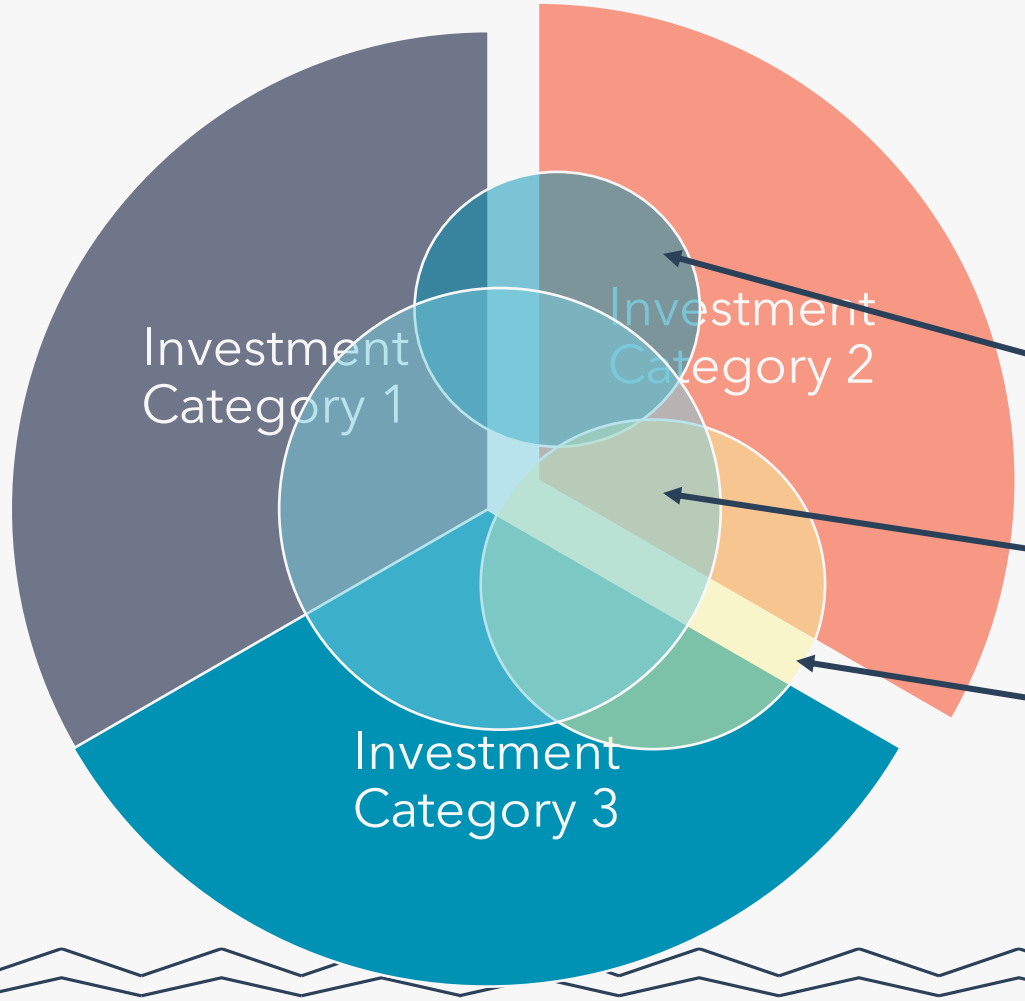
Practice in 2022 so we can perform in 2023

PGE Capital Planning Cycle



PGE Distribution Capital Portfolio

(for discussion purposes)



DSP Part 2 Objective:
Paring down the portfolio to investments that stakeholders care about.

NWS Candidates (DSP Requirements 5.3.d)

Portion of Capital Portfolio that is presented publicly (DSP Requirements 5.3.a and b)

Large Projects that need to be reviewed with the public (DSP Requirement 5.3.c)

Engaging Our Communities

Our objective is to foster **procedural equity and ensure diversity of voice** in the DSP planning process.

To accomplish this, we will continue to partner with Community-based Organizations (**CBOs) and other organizations that have longstanding relationships and establish trust in environmental justice communities** to:

- Co-develop community education around key DSP practices and relevant energy related concepts
- Co-create community workshops to identify community energy needs, desires, barriers and interest in clean energy planning and projects
- Co-develop solutions for NWA pilot projects

Next Steps

Next Steps for Part 2

<table>
<tr><th></th><th colspan="8">2021 / 2022</th></tr>
<tr><th></th><th>November - December</th><th>January</th><th>February</th><th>March</th><th>April</th><th>May</th><th>June</th><th>July</th><th>August</th></tr>
<tr><td>Forecasting of Load Growth, DER Adoption, and EV Adoption</td><td>Forecasting of DER/EV Adoption by substation</td><td>Overview of AdopDER tool</td><td colspan="4">Results of geographical forecasting, publication of DER Potential and Flex Load Study on PGE's website</td><td>Iterate as needed</td><td rowspan="4">PGE writes DSP</td><td rowspan="4">Final draft shared with partners and communities</td><td rowspan="4">PGE files on August 15, 2022</td></tr>
<tr><td>Grid Needs Identification</td><td rowspan="2">Discussion of existing process and identification of gaps, risks and opportunities</td><td>Recommended criteria for prioritizing projects</td><td>Identification of existing projects, accessed for reliability, risk, and grid adequacy</td><td>Prioritization of existing projects, and identified needs</td><td colspan="2">Time of grid needs must be resolved to avoided potential adverse impacts</td></tr>
<tr><td>Solution Identification</td><td>Recommended criteria for screening NWS</td><td>Identification of existing projects with analyses identifying opportunities for NWS</td><td>Identification of existing projects with analyses identifying opportunities for NWS</td><td colspan="2">Recommended two pilots concepts</td></tr>
<tr><td>Near-term Action Plan</td><td colspan="7">Development of 2-4 year plan</td></tr>
</table>

You can reach us at:

DSP@PGN.com

Let's meet the future together.

Appendix

DSP Evolution

Distribution System Planning Evolution Framework		
Stage 3		Achieving the long-term vision for distribution system planning capabilities and outcomes.
Stage 2	Advancing requirements incrementally to better match growing utility capabilities and evolving grid, customer and community needs.	
Stage 1	Beginning with Initial Requirements of Utility DSP Filings, providing a foundation for future stages.	
	2021-2022	**2023 and beyond**

Forecasting of Load Growth, DER Adoption, and EV Adoption Requirements & Evolution

Discussion of current utility processes for distribution system load growth forecasting including:

Forecasting method and tools used to develop the forecast

Forecasting time horizon(s)

Data sources used to inform the forecast

Locational granularity of the load forecast

Forecast of DER adoption and EV adoption by substation

High/medium/low scenarios for both DER adoption and EV adoption

Describe its methodologies for developing the DER forecast, EV forecast, high/medium/low scenarios, and geographical allocation in its plan

The methodology for geographical allocation (to the substation) is at the utility's discretion.

Leveraging information from relevant DER programs, pilots, data, and studies

Forecasting of Load Growth, DER Adoption, and EV Adoption		
Stage 3		Refine hybrid forecast approach to allow more granular locational and temporal forecasts, aiming for consistent outputs across utilities.
Stage 2		Identify potential locational system benefit from strategic placement of DERs on the distribution grid.
		Examine data to better understand opportunities for customer participation by energy-burdened households.
		Leverage both top-down forecasts and bottom-up customer models to build forecasts (approaches may be specified).
Stage 1	Allocate system-wide DER forecasts from utility IRP filings to greater locational granularity.	
	Document forecasting process and indicate existing and anticipated constraints on the distribution system.	
	2021 - 2022	**2023 and beyond**

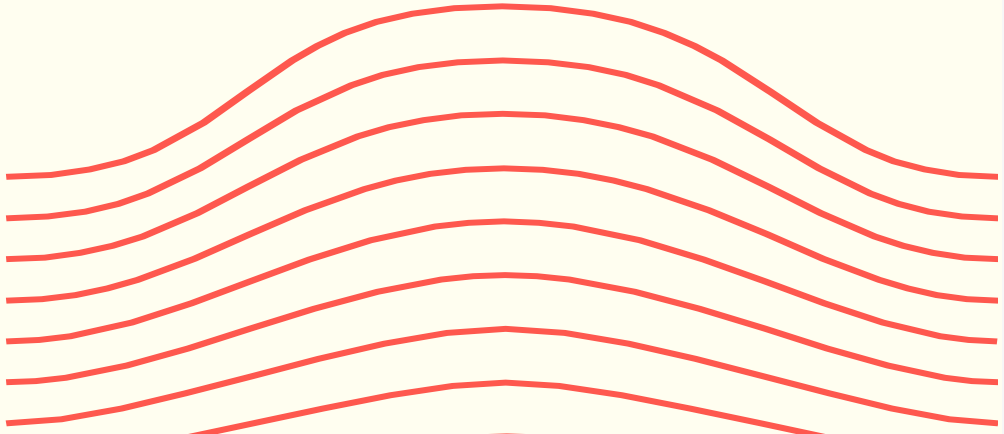
Grid Needs Identification Requirements and Evolution

5.2. a) Document the process used to assess grid adequacy and identify needs.

5.2. b) Discuss criteria used to assess reliability and risk, and methods and modeling tools used to identify needs.

5.2. c) Present a summary of prioritized grid constraints publicly, including criteria used for prioritization.

5.2. d) Provide a timeline by which the grid need(s) must be resolved to avoid potential adverse impacts.



Grid Needs Identification		
Stage 3		Identify grid needs and present a summary of prioritized grid constraints, utilizing prioritization criteria such as community priorities, equity analysis, constraints on DER adoption, and evolving public policy goals.
		Provide new datasets and analysis responsive to OPUC, community inputs and policy evolution.
Stage 2		Develop robust "future state" data needs, including inputs in the following categories:
		Perform equity analysis overlaying customer geographic and socio-economic data relative to system reliability and customer options. Make findings publicly available.
		Needs identification includes results of community needs assessments, DER forecasting, and equity analysis.
		Identify grid modernization needs and present a summary of prioritized grid constraints and opportunities publicly.
Stage 1	Present summary of prioritized grid constraints publicly, including criteria used for prioritization.	
	Document process and criteria used to identify grid adequacy and needs. Discuss criteria used to assess reliability and risk, and methods and modeling tools used to identify needs.	
	2021 - 2022	**2023 and beyond**

Solution Identification Staged Evolution

Solution Identification		
Stage 3		Co-develop solutions with communities and community-based organizations.
		Streamline and refine non-wires solutions and aggregations of non-wires solutions to defer distribution system upgrades.
Stage 2		In assessing options for distribution system pilots and projects, engage community organizing experts to gain input from potentially impacted communities.
		Prior to filing, publicly present data used to identify distribution system investments, and understand data most useful to stakeholders.
		Co-develop solutions with communities and community-based organizations.
		Utilize non-wires solutions to defer distribution system upgrades. This includes harnessing DERs for voltage support and frequency event support.
Stage 1	Stakeholders provide feedback on what data would be useful to them. OPUC determines if additional datasets are necessary and may direct utilities to submit them in the next Distribution System Plan filing.	
	Provide summary and description of data used in distribution system investment decisions such as: feeder level details (including customer types on feeder, loading information), DER forecasts and adoption.	
	Document the process to identify a range of possible solutions to address grid needs. For larger projects, engage with communities early in solution identification. Facilitate discussion of proposed investments that allow for mutual understanding of the value and risks associated with resource investment options.	
	2021 -2022	**2023 and beyond**

Solution Identification

Requirement
5.3) Solution Identification (SID)
a) Document the process to identify the range of possible solutions to address priority grid needs.
b) For each identified Grid Need provide a summary and description of data used for distribution system investment decisions including: discussion of the proposed and various alternative solutions considered, a detailed accounting of the relative costs and benefits of the chosen and alternative solutions, feeder level details (such as customer types on the feeder; loading information), DER forecasts and EV adoption rates.
c) For larger projects (this may exclude, for example, regular maintenance projects, or inspection projects), engage with impacted communities early in solution identification. Facilitate discussion of proposed investments that allow for mutual understanding of the value and risks associated with resource investment options.

Solution Identification, cont.

Requirement
5.3) Solution Identification (SID)
d) Evaluate at least two pilot concept proposals in which non-wire solutions would be used in the place of traditional utility infrastructure investment. - The purpose of these pilots is to gain experience and insight into the evaluation of non-wire solutions to address priority issues such as the need for new capacity to serve local load growth, power quality improvements in underserved communities. - These pilots will prepare utilities to achieve the goals listed in Stages 2 and 3 of Figure 6. - In its pilot concept proposals, a utility should discuss the grid need(s) addressed, various alternative solutions considered, and provide detailed accounting of the relative costs and benefits of the chosen and alternative solutions. - The pilot concept proposals should be reasonable and meet the Guidelines, even if the individual proposal may not be cost effective. In addition, evaluation of pilot concept proposals should utilize the community engagement process developed in Section 4.3. (a) (ii) and address: The pilot concept proposal should include a process in which the utility works with stakeholders to set equity goals, as may be appropriate for the pilot.
i. Community interest in clean energy planning and projects ii. Community energy needs and desires iii. Community barriers to clean energy needs, desires, and opportunities iv. Energy burden within the community v. Community demographics vi. Any carbon reductions resulting from implementing a non-wires solution rather than providing electricity from the grid's incumbent generation mix