Oregon Distribution System Plan – Part 2

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Today's Agenda

1. Introduction – PAC Approach to DSP Part 2 (5 minutes)
2. Background and Context (5 minutes)
   - Service Territory
   - Transitional Study Areas
   - Other regulatory matters and overlapping topics
3. Part 2 Technical Activities (10 minutes)
   - Forecasting
   - Grid Needs
   - Solutions and Non-Wires Solutions
4. Update on Outreach and Engagement (5 minutes)
   - Survey
   - State Level Engagement
   - Local Engagement
5. Near-Term Action Plan (10 minutes)
6. Conclusion (5 minutes)

Q&A (20 minutes)

1) Introduction






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DSP Approach – Part 2

DSP Core Principles

- Transparent and comprehensive data sets for customers, communities, regulators and stakeholders to evaluate and set priorities while recognizing state goals for advancing a clean, equitable energy future
- Robust engagement with communities, stakeholders and regulators to ensure access to information and data and to encourage adoption of new technologies through properly advanced investments by PacifiCorp and its partners
- Technology adoption at a pace customers can afford and the Company can perform
- Increasing resilience in the face of climate change and customer expectations

DSP Approach – Part 2

Approach – evolution and steady improvement of Distribution Planning processes, data, tools and engagement.

Progress during DSP Part 2:

- Continued to expand engagement – major survey effort to establish baseline understanding of customer/stakeholder understanding, interests and concerns (more than 4,000 responses, 20+ stakeholder interviews), 5 Stakeholder workshops, 3 NWS Proposals, One local engagement meeting to outline DSP and review NWS, additional meetings with stakeholders (NWEC Coalition, ETO, FCA, OSSIA).
- Deep dive into technical elements of DSP: load, EV and DER forecasting; detailed analysis of grid needs to support evaluation of Non-wires solutions, initial analysis of two complex NWS including initial cost effectiveness analysis.
- Many lessons learned and developed pragmatic near-term plan to build out DSP capabilities over next two – four years

DSP Part 2 – Report

High Level Table of Contents for PacifiCorp DSP Part 2 Report:

- **Chapter 1 –** PacifiCorp DSP Vision, Regulatory Background and Overlaps, Focus for Part 2
- **Chapter 2 –** Background Information – Current DSP Processes, Stakeholder Survey
- **Chapter 3 –** Forecasting: Address Specific Load Forecasting Requirements for DSP Part 2
- **Chapter 4 –** Grid Needs: Address Specific Grid Needs Identification Requirements – Focus on Klamath Falls specific Grid Need
- **Chapter 5 –** Solution Identification: Review Potential Solutions to Identified Grid Need, Review Two Potential Non-Wires Solutions
- **Chapter 6 –** Near-Term Action Plan: Outline Plans for DSP Needs in Coming 2-4 Year Period
- **Chapter 7 –** Outreach and Engagement Update
- **Chapter 8 –** Considerations and Conclusion

Technical Elements

2) Background and Context






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Overview of Pacific Power – Oregon

- 502 distribution circuits
- 191 distribution substations

Pacific Power's Service Territory

NORTH REGION			CENTRAL REGION			SOUTH REGION	
Portland	Walla Walla	Yakima	Bend	Albany	Roseburg	Klamath Falls	Medford
Operating Areas / Districts							
Clatsop (Astoria) Portland	Walla Walla Hermiston Umatilla Pendleton Enterprise Dalreed	Sunnyside Yakima	Madras Hood River Bend Redmond	Albany Corvallis Dallas Independence Cottage Grove Stayton Lebanon Lincoln City	Coos Bay Roseburg	Alturas Lakeview Tulelake Mt Shasta Klamath Falls Yreka	Crescent City Medford Grants Pass
Distribution System Profile							
95 Circuits 1,200 Line Miles 107,000 Customers	42 Circuits 2,500 Line Miles 54,000 Customers	106 Circuits 3,300 Line Miles 108,000 Customers	65 Circuits 2,800 Line Miles 77,000 customers	86 Circuits 3,700 Line Miles 137,000 Customers	66 Circuits 2,300 Line Miles 70,000 Customers	110 Circuits 5,000 Line Miles 75,000 Customers	138 Circuits 5,700 Line Miles 156,000 Customers
Unique Attributes							
Portland Underground Mesh Network Distributed Automation Pilot Project	Fire High Consequence Area	Fire High Consequence Area	High Growth Rate/New Connections	Distributed Automation Pilot Project Energy Storage Pilot	Fire High Consequence Area	California Code Requirements Fire High Consequence Area	Distribution Automation Pilot Project Fire High Consequence Area

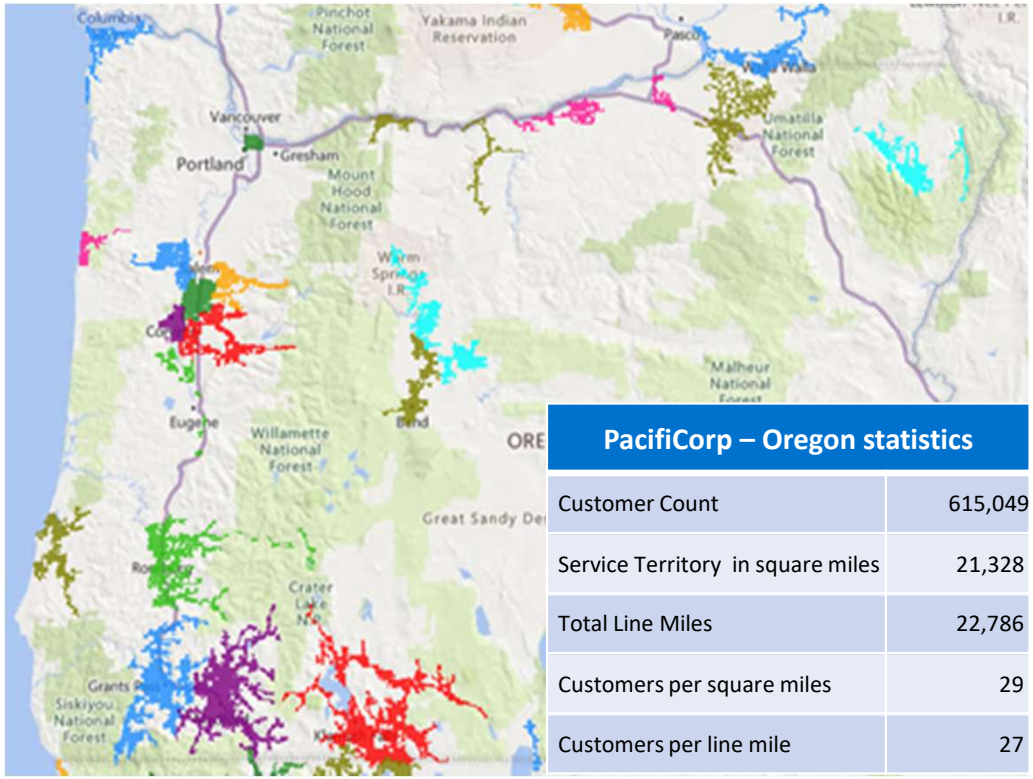
Pacific Power's Oregon Service Territory

- Dispersed and Varied Geography: Territory spans from Washington to California and the coast to Idaho, broken into eight distinct planning districts

- Diverse Circuit Loading/Composition:
  - Densest circuit in Portland with 638 customers per line mile
  - Least dense in Hermiston with one customer per line mile
  - Oregon average is 28 customers per line mile

- Diverse Environmental Conditions: Distribution in eight of nine Oregon climate zones

- Various Touchpoints: Interconnections with 16 other electrical power companies, including CAISO and Bonneville Power



PacifiCorp – Oregon statistics	
Customer Count	615,049
Service Territory in square miles	21,328
Total Line Miles	22,786
Customers per square miles	29
Customers per line mile	27

Transitional Study Areas

Given the dispersed and decentralized nature of PacifiCorp's distribution systems in Oregon, PacifiCorp targeted two regions to use as "Pilot" or "Transitional Study" areas to experiment with new DSP processes, explore potential NWS and solicit input on NWS pilot proposals.

The focus areas for transitional study were **Klamath Falls** and **Pendleton**.

These areas were selected for transitional planning using the following criteria:

- ✓ Distributed Generation (DG) capacity and readiness (SCADA availability, DG protection measures, daytime minimum load)
- ✓ Study cycle timing – both areas were on-cycle for DSP planning
- ✓ Historical renewable/DER project activity
- ✓ Area demographics and characteristics (suburban/rural)

Focused on these two areas to evaluate grid needs, examine potential NWS and engage with local community.

Transitional Study Areas

Pendleton: After assessment, no active grid needs found in the area studies due to recent substation addition and re-balancing of loads across substations and circuits.

Klamath Falls – Focus area for Non-Wires Solutions (NWS) evaluations – Major Activities:

- Identified representative grid need – overcapacity issue on Crystal Springs (5L45) circuit.
- Sought input for NWS in various forums (email, on-line form, workshops) to meet need
- Received 3 NWS proposals (2 from OSSIA and 1 from FCA)
- Framed potential NWS to grid need:
  - Reviewed initial analysis with FCA/OSSIA/ETO
  - Reviewed with local Klamath Falls stakeholder group
- Analyzed two potential NWS in greater detail:
  - Solar + Storage
  - Targeted Energy Efficiency

Klamath Falls – Crystal Springs – 5L45

- Projected peak summer load drives overload on conductor
- Phase imbalance
- Low voltages on circuit

Overlap with Other Regulatory Initiatives

Overlap between DSP and other on-going regulatory initiatives:

- Interconnection Docket UM 2111: Hosting Capacity Analysis
- Clean Energy Plan UM 2225: Energy Equity, Resilience, Outreach and Engagement, future targets for small-scale renewables (will impact distribution planning)
- Potential engagement and stakeholder overlap:
  - UM 2005 and Order No. 20-485 - Community Engagement Plan to prepare and implement a Distribution System Plan
  - HB 2021 – Community Benefits and Impacts Advisory Group (CBIAG)
  - UM 2225 – Community engagement strategy to support HB 2021

3) Part 2 Technical Activities



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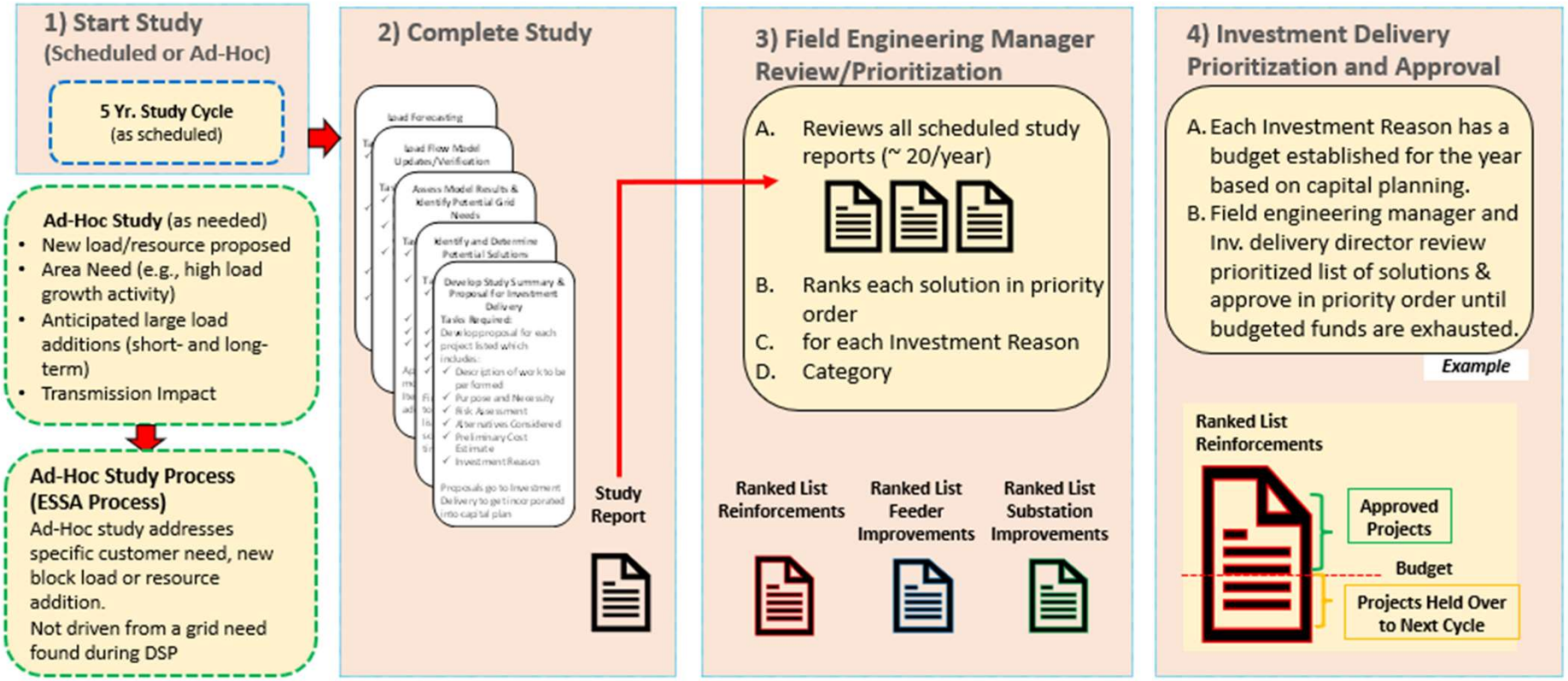
Current DSP Process

Current process includes **four** high-level steps…



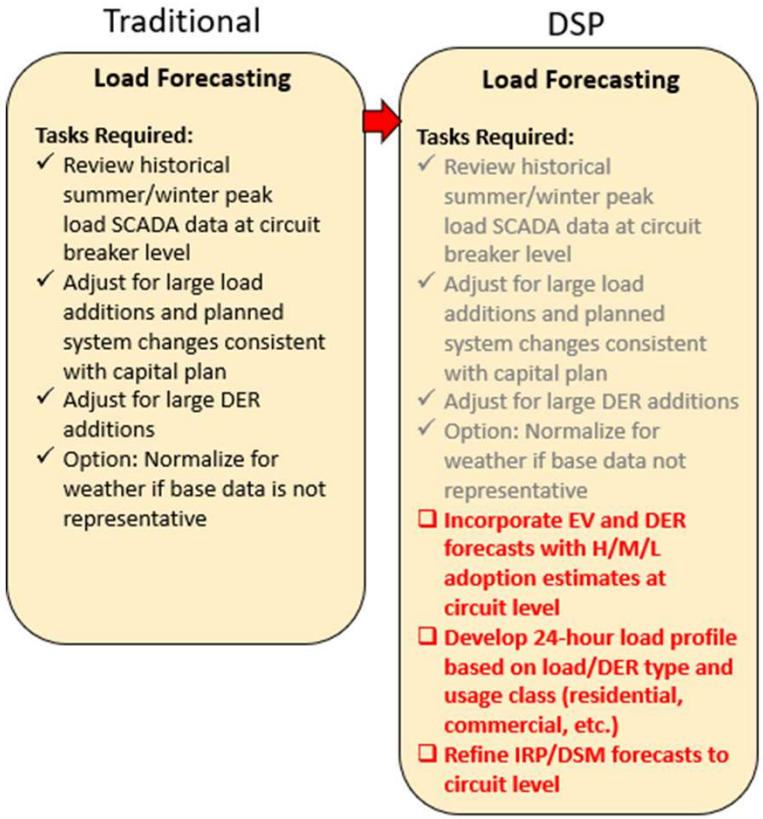
DSP Process Changes

PacifiCorp's process is changing to incorporate new requirements and stakeholder engagement. The process includes changes to the following areas:

- DSP Load Forecasts
  - General DSP Load Forecast Process
    - Distributed Energy Resources
    - Transportation Electrification
- Grid Needs Assessment
- Solution Identification
  - Traditional vs Non-Wire Solutions

The following slides highlight some of those changes in the process.

DSP Load Forecast Process



Base Load Forecast for Crystal Springs Circuit:
- Field Engineer using SCADA data
- Regression based forecast from highest peak in past 5 years
- Accounts for known/expected changes

Plus

EV: Additional Load from Electric Vehicle *High/Low Adoption Scenario (AEG OR Electric Vehicle Study)*:
- Incremental EV growth rate applied to circuit

Minus

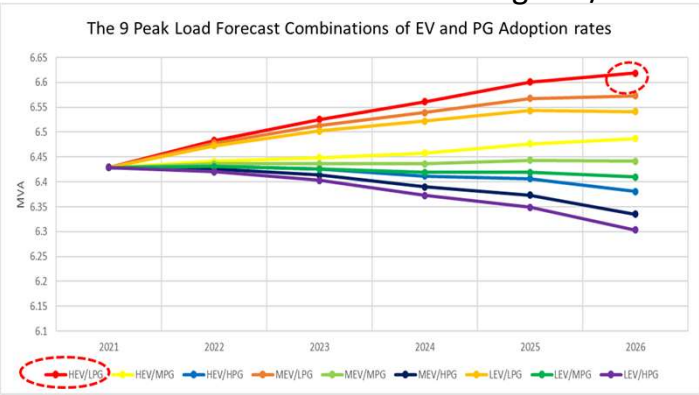
Private Gen: Additional Dist. Level Generation from Private Generation *High/Low Adoption Scenario (DNV Private Generation Study):*
- Incremental adjustment to base forecast to reflect Low Adoption Scenario (Low Gen produces highest overall load)

Equals

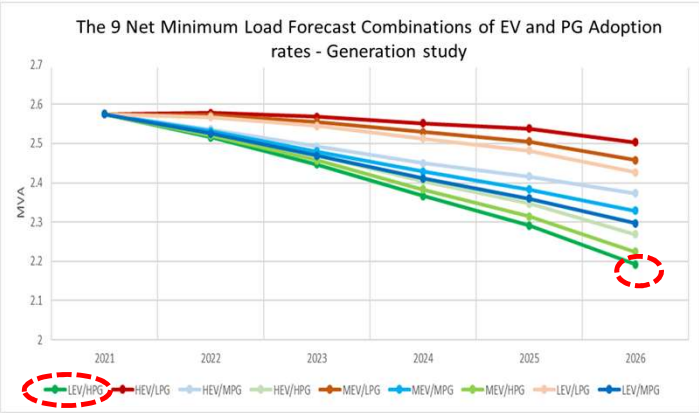
DSP Load Forecast for Crystal Springs Circuit

Comparison of DSP vs Traditional Peak Load Forecast

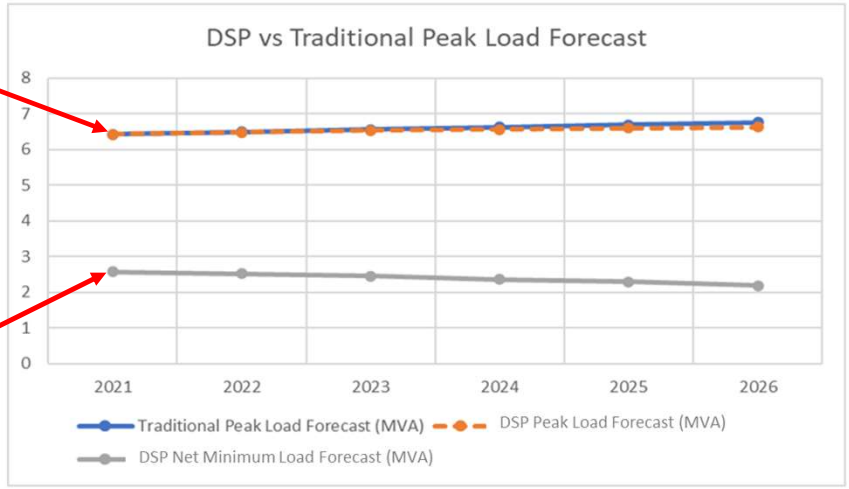
Peak Load Forecast Worst Case = High EV/Low PG



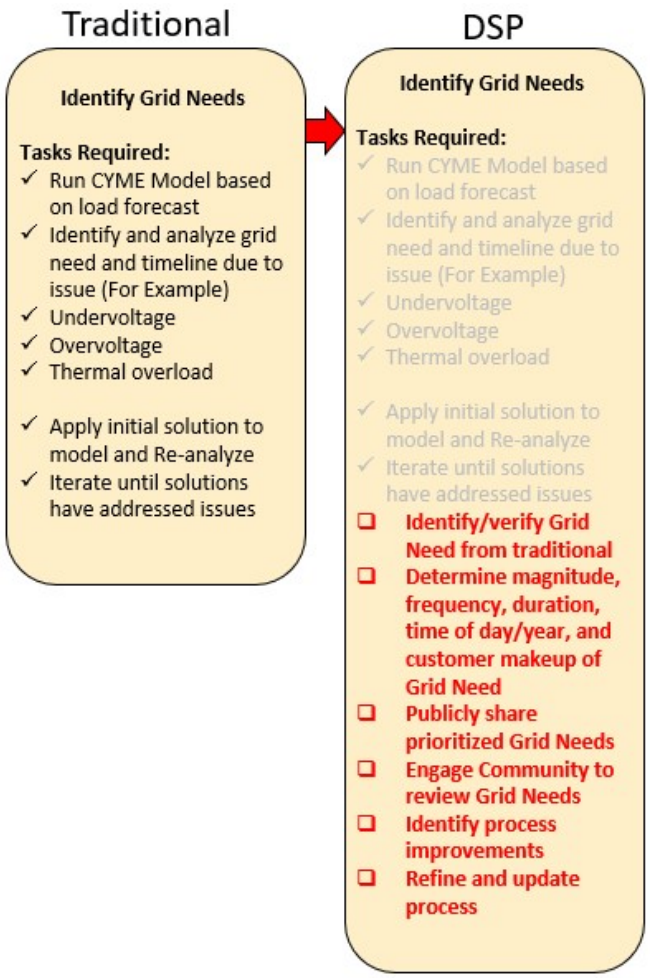
Net Minimum Load Forecast Worst Case = Low EV/High PG



- The DSP peak load forecast was ~2% less than traditional forecast
- The DSP Net Minimum load forecast is new to forecasting process



DSP Grid Needs



Main Additions from Traditional Process:

- Start: Verify grid need from initial study
- Determine details of grid need (magnitude, frequency, duration, time of day, seasonality)
- Gather and analyze customer data for area/circuit (what customer groups may be driving grid need/what customer groups might be available for solutions?)

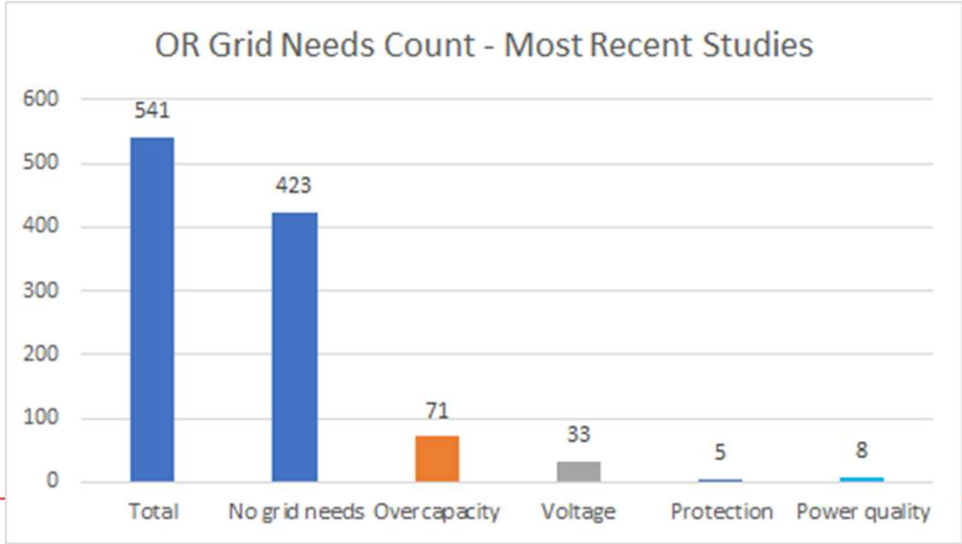
Distribution System Planning Grid Needs - Context

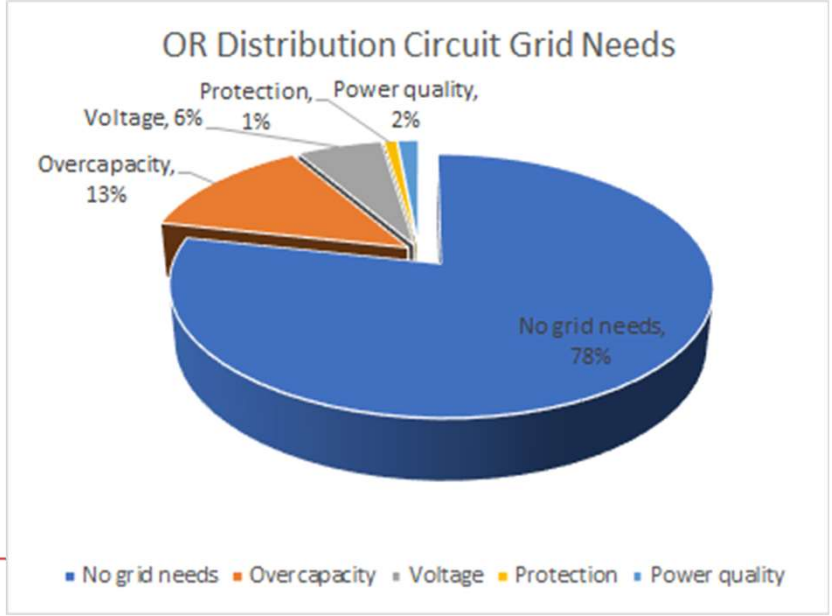
Reviewed the latest Distribution System Planning Studies for all study areas in Oregon (excludes customer-driven or ad-hoc studies):

- Categorized the grid needs that were identified in the studies (see results below)
- Captured rough cost estimates for wires solutions and added that breakdown – 117 total Grid Needs Identified:
  - 32% between $0 and $5K,
  - 54% between $5K and $200K,
  - 14% more than $200K

Findings:

- Grid needs found in 22% of circuits
- Overcapacity is the most common grid need (61% of found needs)
- 86% of found grid needs cost less than $200K
- Of those needs, not all will be suitable for NWS





Grid Need – Klamath Falls

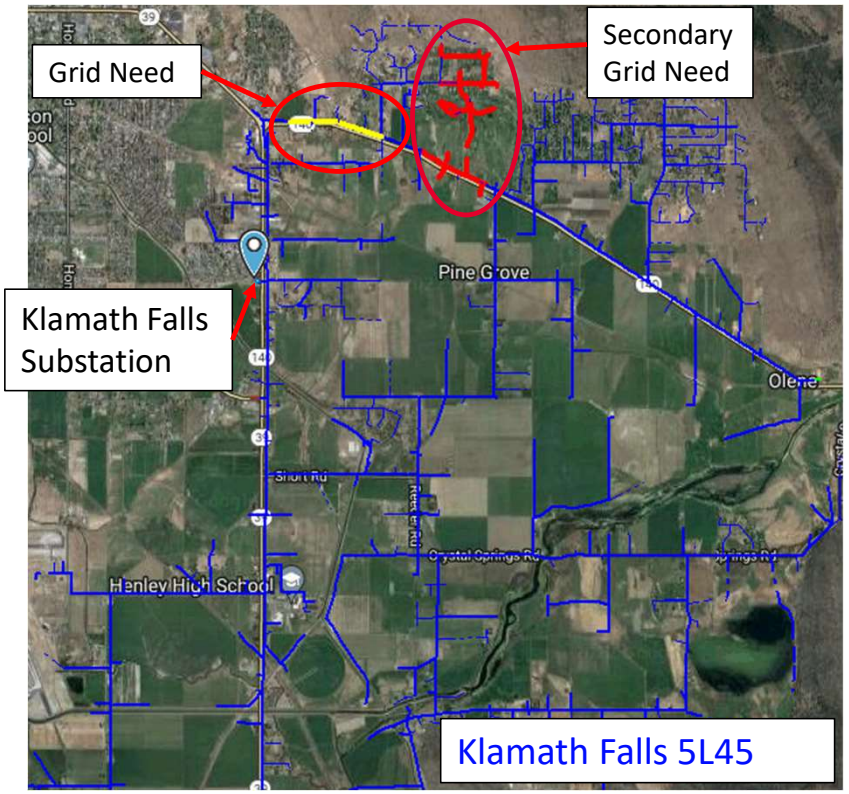
Circuit Details:

- Crystal Spring (Circuit 5L45) served from Klamath Falls substation
- Circuit operates at 12.47 kV
- Peak loading occurs during summer
- Daytime minimum loading occurs during the spring

- Overall Customer makeup:
  - 1,499 Total number of customers
    - 1,196 Residential
    - 155 Irrigation
    - 145 Commercial
    - 3 Industrial

Grid Needs:

- Study identified an overcapacity issue causing conductor overload
- Also causes low voltage downstream



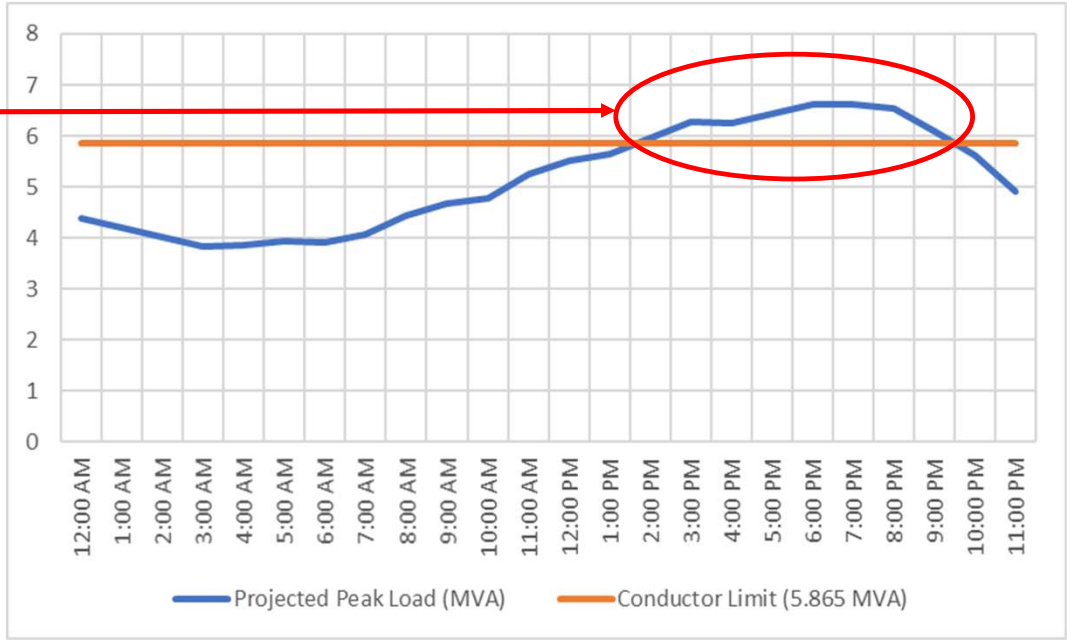
Grid Need – Klamath Falls

Grid Need:

- Approximately 750 kW over existing conductor limit
- Occurs ~20 – 50 hours total per year in Summer ~ June through August

- Number of customers downstream of issue:
  - 511 Total customers (37% Summer kWh)
    - 461 Residential (24%)
    - 33 Irrigation (13%)
    - 17 Commercial (1%)
    - 0 Industrial (0%)

Based on the Grid Need and characteristics of circuit, there are several solutions available. All have different effects in terms of complexity, performance, and reliability.

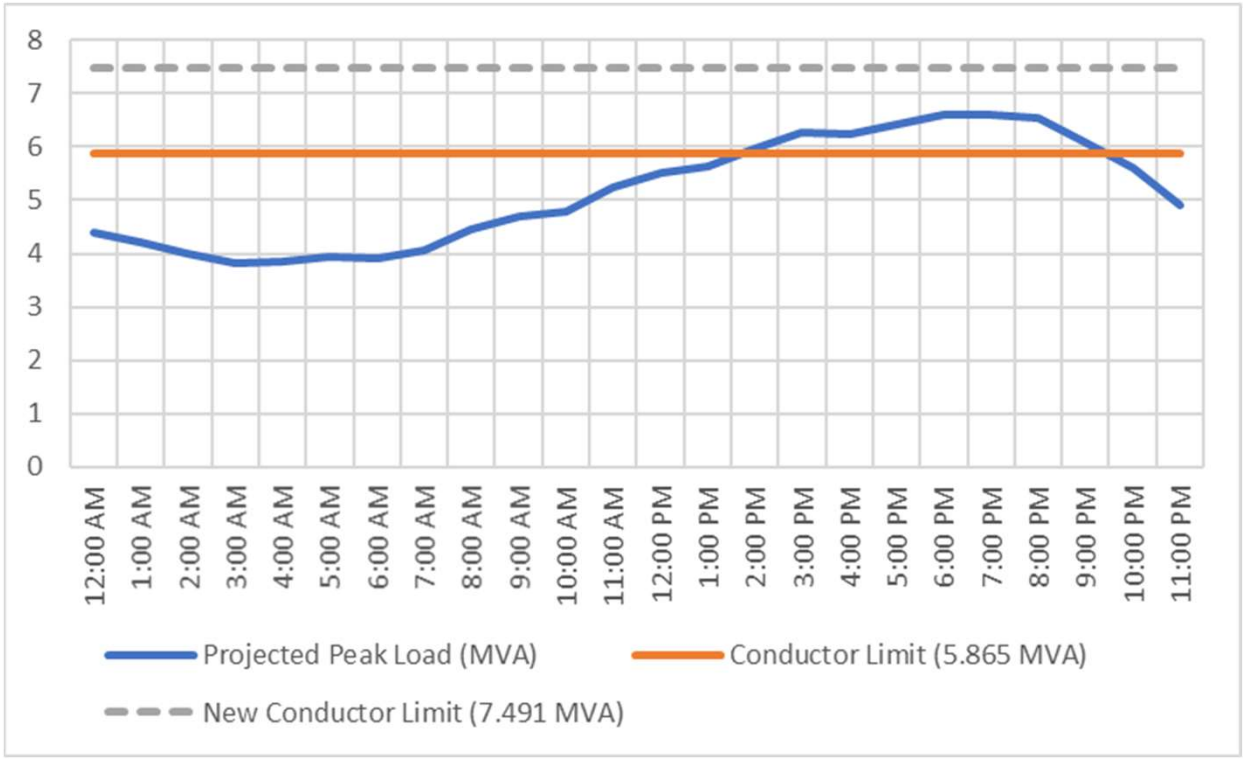


Solution Identification

- PacifiCorp considered several solutions to meet the Grid Need in Klamath Falls, including the traditional wire solution and a range of non-wire solutions options:
    - Solar
    - Solar + Battery Storage
    - Load Control, Curtailment, Demand Response
    - Targeted Energy Efficiency
    - Other Renewables
- As part of the solution identification process, PacifiCorp held a local, in-person meeting with various stakeholders in the Klamath Falls region to collect input and feedback on the potential non-wire solution options.
- As a result, PacifiCorp evaluated two non-wire solutions for DSP
    - Solar + Storage
    - Targeted Energy Efficiency

Traditional Wires Solution

- Reconductor 3,520 feet of wire
- Phase balancing at a single transformer
- Estimated time to complete: 1 year
- Estimated cost: $225k*



* Based on a Jan 2022 planning study/evaluation

NWS Pilot Concept #1
Solar + Storage

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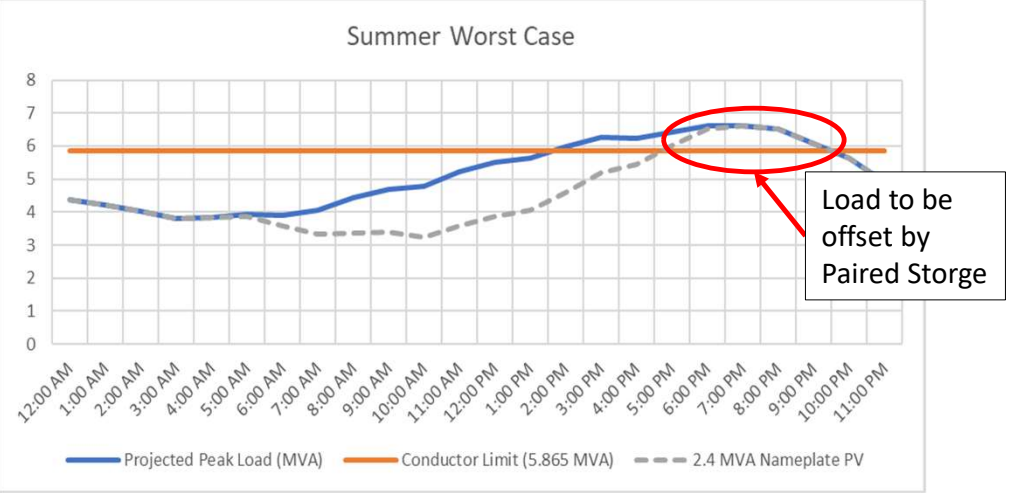
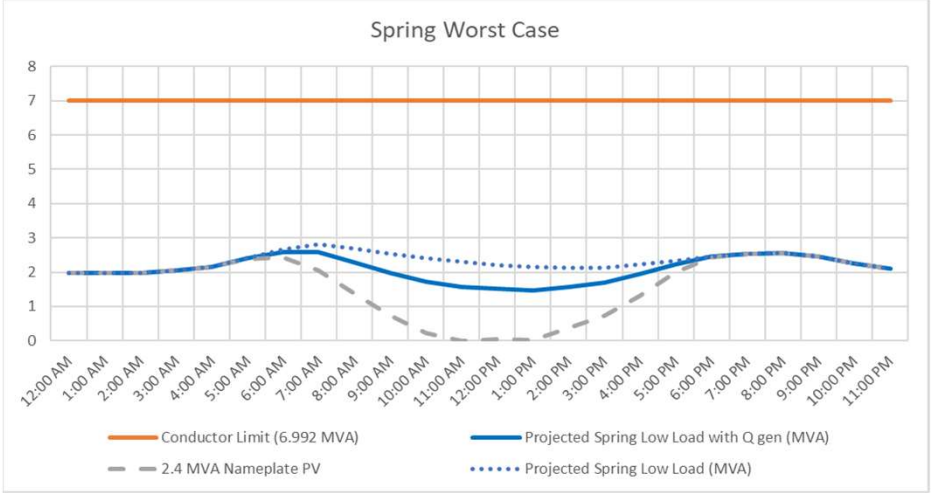
NWS Concept: Solar + Storage
Residential

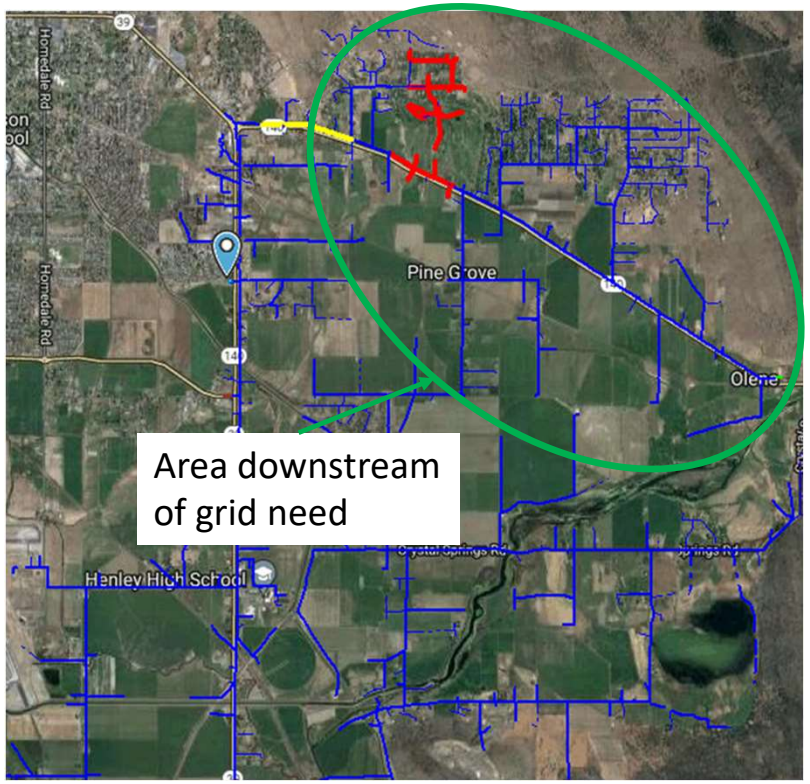
- 2.4 MW (unity power factor) PV limit before reverse power flow
- Est 2.44 MWh needed for peak load with this amount of PV
- Many possible combinations, but 2.4 MW of PV and 2.44 MWh of storage was chosen for this study (limits included number of customers downstream and number of customers with existing PV)
- Using Storage to address a grid need requires a system to control battery dispatch





NWS Concept: Solar + Storage
Residential

- NWS Concept: Residential roof top solar + storage option
  - Ideal placement is downstream of need
  - 90% of customers in grid need area are residential
  - Evaluation assumptions based on Company's Utah Residential Wattsmart Battery Program
- High-Level Results:
  - Could meet the grid need with caveats:
    Requires high participation at very high participant cost, requires leverage of existing dispatch control system & ability to dispatch on command
  - Very high participant costs - Total costs $15 - $23M
  - Marginally Cost Effective for Utility (UTC .84 – 1.5)
    Not Cost Effective on TRC/PCT (TRC .08 - .37, PCT .01 - .05)



NWS Pilot Concept #2
Energy Efficiency

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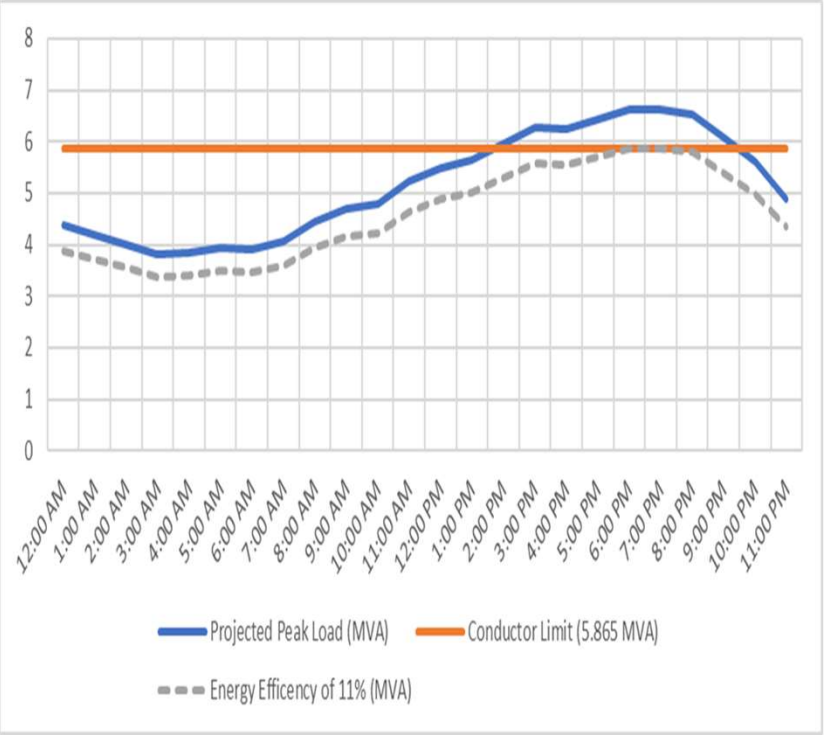
Energy Efficiency Option Planning

Annual energy efficiency savings (kWh) can reduce load during peak periods (kW) helping address over capacity issues on the pilot area circuit.

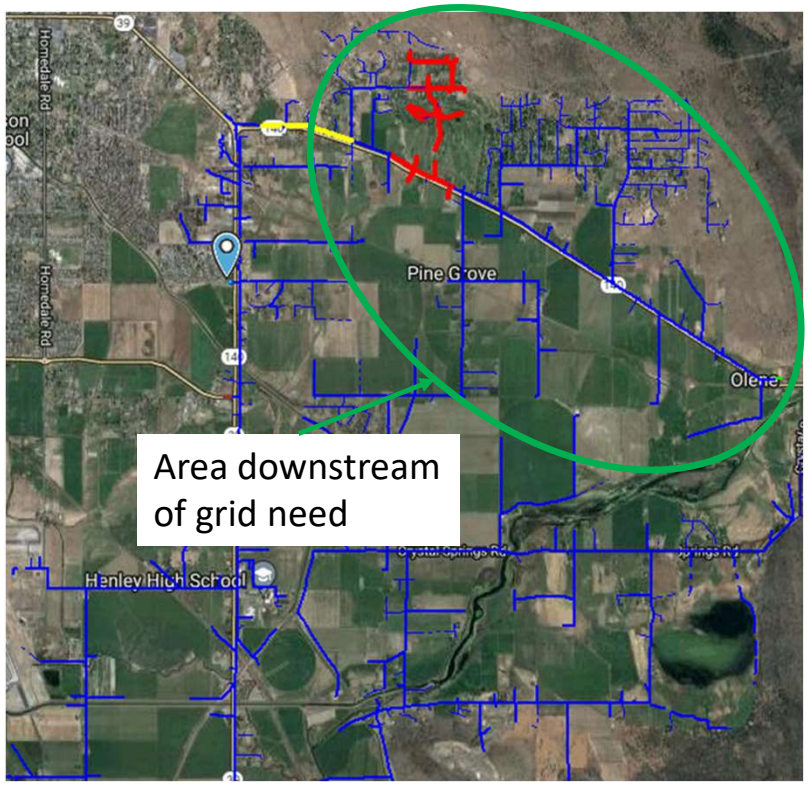
The projected peak already has some level of historical energy efficiency embedded into it.

Critical Question:
How much incremental annual energy savings might it take to achieve 750 kW of peak reduction over 5 years?



Energy Efficiency Option - Results

- NWS Concept: Targeted Energy Efficiency to reduce Peak Load below Conductor Rating
  - Two scenarios evaluated:
    - Accelerated – Regular Measure Mix
    - Accelerated – Target Measure Mix (peak focused)
  - Could meet grid need, but requires very aggressive acquisition - Timing may be a challenge
  - Low-risk Option provides additional kWh reductions beyond peak need that produce additional benefits
- High-Level Results:
  - Moderate costs - Total costs $650K to $1.8M over 5 Yrs
  - All scenarios Cost Effective (TRC 1.2 – 1.4, UCT 2.6 – 3.0)



Lessons Learned from DSP Technical Effort

- **Complexity:** Expanding beyond traditional solutions requires much more detailed assessment of grid needs (specifics around seasonality, frequency, duration and potential impact of grid needs), non-traditional solutions require more detailed specification to ensure they can meet needs, etc. and require input from additional subject matter experts.
  Learning: Need to improve processes to ensure analysis focused on high-potential areas/opportunities and continue to improve analytical processes and toolsets.

- **Data Requirements:** NWS analysis requires greater data granularity (e.g., 8760 SCADA data, specific resource/load curves, etc.), complementary data sets (customer composition on specific circuits, specific forecasts, etc.) and integration of data for analysis.
  Learning: Need to develop detailed understanding of data needs and establish repositories/processes and data flows to integrate the data sets to limit manual handling and improve data quality.

- **Lead Times/Planning Horizon:** NWS require several year of lead time to plan and implement.
  Learning: Consider expanding planning horizons or lowering planning limits to identify potential needs earlier.

- **Forecasting:** Minimum net load forecasting is new, challenging and labor intensive; new component forecasts need to be incorporated into Distribution level forecasts.
  Learning: Many refinements to forecasting process. Need to automate minimum net load process.

4) Update on Community Engagement at the State and Local Level



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DSP Stakeholder Survey - Overview

The **overall objective** of this research was to prioritize the benefits associated with cleaner energy, understand the concerns, and obtain high-level stakeholder feedback.

- Identify challenges facing the community and individuals (Not necessarily related to energy)
- Prioritize the benefits associated with clean energy
- Understand concerns associated with moving to clean energy
- Understand stakeholders' perceptions about DSP, their informational needs, and best practices for engagement
- Identify non-traditional stakeholder groups that should be part of the process, and understand how they can provide insight into energy equity goals

Target Audience

- Pacific Power residential and business customers in Oregon
- Pacific Power frontline customers
- Stakeholders

Methodology

- This study was conducted using a mix of online and phone surveys and remote in-depth interviews
- Surveys available to customers in English and Spanish
- A total of 4,627 surveys, including 30 from frontline customers, were completed between February 1 and February 28, 2021
  - Phone: 130 completed surveys
  - Web: 4,497 completed surveys
  - IDI: 24 interviews completed

DSP Stakeholder Survey – Key Findings

Top Community Concerns

- Community: Affordable housing and high cost of living
- Individuals: High cost of living, climate change, health care
- Portland-Based Residents: Homelessness, affordable housing, climate change, pollution, health care and education
- NE Oregon and Willamette Valley: Access to jobs, health care

Clean Energy DSP Top Benefits

- Reducing the impacts of climate change
- Preparedness for natural disasters
- Decreased reliance on fossil fuel
- Lower energy bills
- Reducing the environmental impacts of the electric system
- Portland-Based Residents: Impacts of climate change and environmental issues
- Other Regions: Personal and economic benefits

Clean Energy DSP Top Concerns

- Costs and potential bill increases
- Dependability on renewable sources and impact of materials needed
- Customers outside of Portland and Hood River: More likely to express concern about the transition to cleaner energy

DSP Engagement Update - Workshops

PacifiCorp Distribution System Plan Stakeholder Workshops				
October 25, 2021	January 13, 2022	May 11, 2022	June 24, 2022	July 21, 2022
• Overview of DSP Report • DSP Map Viewer • Data Discussion	• Community Engagement • Review plans for MDC Survey	• MDC Survey Results and Interviews • Updated CIG Development Strategy • Pilot Transitional Study areas and grid needs	• DSP Planning Process • Pilot Transitional Study areas and grid needs • Update on community engagement	• Load forecasting • Non-wires solutions • Update on community engagement

PacifiCorp Distribution System Plan - Other Engagement Activities		
July 7, 2022	July 11, 2022	July 14, 2022
Local Engagement – Klamath Falls: • Background on DSP • Community Perspectives and Feedback • Review non-wires solutions • Select second NWS for evaluation	Clean Energy Plan Workshop • Update customer engagement activities • Align engagement strategies between DSP/CEP	PacifiCorp IRP Workshop • Background about OR DSP • Overview of approach to DSP forecast and use of PG/EV studies

DSP State Level Engagement

- DSP Part 1 – PacifiCorp proposed Community Input Group (CIG) for DSP input, especially focused on equity matters and engagement with stakeholders not traditionally represented in utility planning
- After filing Part 1, PacifiCorp
  - Conducted DSP Clean Energy Stakeholder Survey (Feb/Mar 2022)
- Coordination with UM 2225 investigation of HB2021 and the Clean Energy Plan
  - Developed CEP Stakeholder Engagement Strategy and introduced formation of CBIAG (Initial plan filed on April 21, 2022; updated plan filed on August 4, 2022)
- PacifiCorp plans to combine the equity elements of the CIG and CBIAG and have one equity advisory group for Oregon, the CBIAG.
- DSP Engagement Moving Forward – the DSP Team anticipates:
  - Utilizing the CBIAG for input related to equity issues (e.g., definition of Community Benefit Indicators, equity metrics for screening, suggested data sources, etc.)
  - Continuing DSP workshops to facilitate broader input on DSP-specific topics, updates and progress on distribution system planning activities
  - Incorporating local level community engagement in the on-going DSP study process

Local DSP Engagement Example

Klamath Falls

Klamath Falls is one of the Transitional Study areas where PacifiCorp focused new planning activities in support of Distribution System Planning - UM 2005.

DSP team sought engagement from local stakeholders to review specific options for Non-Wires Solutions and to solicit input on several topics covered in the DSP Survey.

- Held a meeting on July 7th with Local Stakeholders and invited representatives from: Community Action Organization, Chamber of Commerce, Water Users Association, Agricultural Representatives, Education and Municipal Planning/Management:
  - Shared an Overview of Distribution System Planning (DSP)
  - Engaged with Klamath Falls stakeholders:
    - Received input on the DSP process
    - Reviewed identified grid need and discuss potential solutions - including Non-Wires Solutions (NWS)
    - Shared perspectives on community energy and stakeholder engagement

PacifiCorp intends to incorporate local engagement into the on-going Scheduled DSP Study Process

5) Near Term Action Plan






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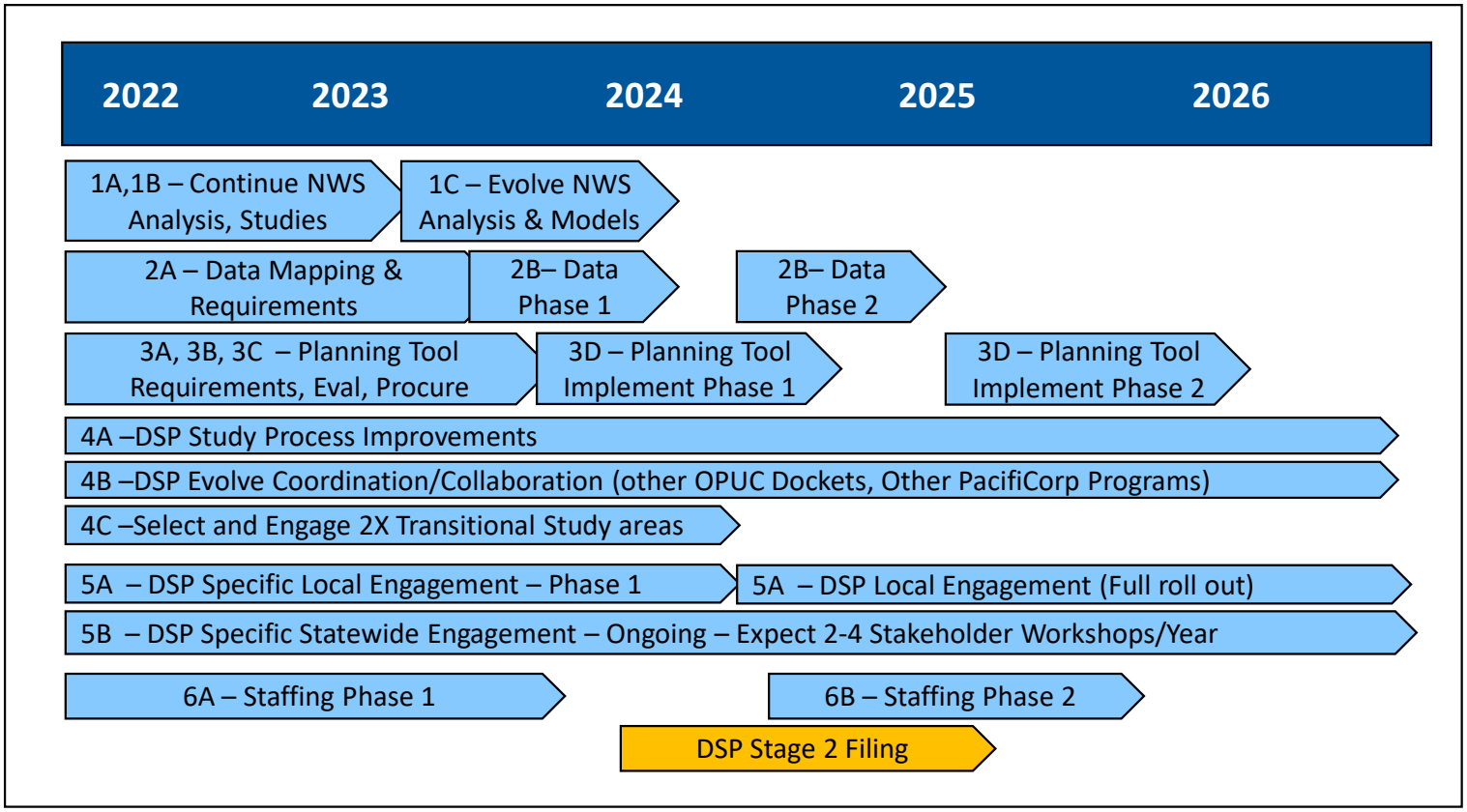
DSP Near-Term Action Plan Overview

Near-Term Action Plan proposes *Six primary workstreams* to build DSP foundation:

- **Item 1: DSP Analytical Projects and Pilot Evaluations** Many activities included in this category are continuations and extensions of analyses initiated during DSP Parts 1 and 2 that require follow-up and additional focus.
- **Item 2: DSP Data Evaluation and Improvement** the evolution of DSP requires much greater granularity and accessibility of data to support analysis and evaluation. This category focus first on mapping current data structures, repositories and data flows that support key DSP processes and then identifying and executing improvements to the data structures, systems and data flows to better support DSP into Stage 2 and beyond.
- **Item 3: DSP Toolset Evaluation and Implementation** In concert with data analysis and improvements, evaluate toolset improvements to support evolution of DSP.
- **Item 4: DSP Process Improvements** PacifiCorp expects the activities in these areas to be driven by a focus on continuous improvement throughout the Near-Term Action Plan horizon (External and Internal elements)
- **Item 5: DSP Specific Outreach (Local and Statewide)** Evolve and expand outreach and engagement to build relationships and dialog around DSP process.
- **Item 6: Utility Staffing and Development** Build foundational skillsets and on-board key personnel to evolve DSP over time.

DSP Near-Term Action Plan Timeline



DSP Near-Term Action Plan Workstreams

- **Item 1: DSP Analytical Projects and Pilot Evaluations** Many activities included in this category are continuations and extensions of analyses initiated during DSP Parts 1 and 2 that require follow-up and additional focus.
  - 1A: Continue Evaluation of Part 2 Non-Wires Solutions - Q3/Q4 2022
  - 1B: Further Review and Synthesize Recently Completed Studies - Q3/Q4 2022
  - 1C: Evolve Non-Wires Analysis and Valuation – 2023

- **Item 2: DSP Data Evaluation and Improvement** the evolution of DSP requires much greater granularity and accessibility of data to support analysis and evaluation. This category focus first on mapping current data structures, repositories and data flows that support key DSP processes and then identifying and executing improvements to the data structures, systems and data flows to better support DSP into Stage 2 and beyond.
  - 2A: Baseline Data Requirements and Data Flow Analysis - Q4 2022 – Q2 2023
  - 2B: Design and Implement Improvements to Data Structures/Repositories/Flows - Phase 1 (Q2 – Q4 2023), Phase 2 (Q2 – Q4 2024)

DSP Near-Term Action Plan Workstreams

- **Item 3: DSP Toolset Evaluation and Implementation** In concert with data analysis and improvements, evaluate toolset improvements to support evolution of DSP.
  - 3A: Establish Requirements for Planning/Analysis Tool Evaluation Q3 2022 – Q1 2023
  - 3B: Conduct Evaluation and Selection Process (as needed) Q1/Q2 2023
  - 3C: Procure Selected Toolset (as needed) – Q2/Q3 2023
  - 3D: Phased Implementation of Selected Toolset and Accompanying Components Phase 1 (Q3 2023 – Q3 2024), Phase 2 as needed (Q1 2025 – Q2 2026)

- **Item 4: DSP Process Improvements** PacifiCorp expects the activities in these areas to be driven by a focus on continuous improvement throughout the Near-Term Action Plan; the Company anticipates needing a concerted effort to establish the initial set of improvements.
  - 4A: DSP Study Focused Improvements: Improve the technical study process, develop standards and consistency, update DSP Study guidelines, etc. – On-going
  - 4B: Coordination and Collaboration Improvements: External (e.g., OPUC, ETO initiatives) and Internal (e.g., cross-functional collaboration, cross-initiative collaboration, etc.) – On-going
  - 4C: Identify and Engage Additional Transitional Study Areas – Q4 2022 – Q1 2024

DSP Near-Term Action Plan Workstreams

- **Item 5: DSP Specific Outreach (local and Statewide)** Evolve and expand outreach and engagement to build relationships and dialog around DSP process.
  - 5A: DSP Specific Local Engagement – build into regular DSP process with focus on engagement early in planning cycle to identify needs/priorities. On-going
  - 5B: DSP Specific Statewide Engagement – Continuation of DSP Stakeholder "workshops" to address current topics, gather input on updates and improvements. Also includes participation in CBIAG as needed (expected for equity-related matters). On-going

- **Item 6: Utility Staffing and Development** Build foundational skillsets and on-board key personnel to evolve DSP over time. Outlined as a Two-Phase process:
  - 6A: Staffing Phase 1: Anticipated Additional Roles - DSP Manager, Data Governance and System Analyst, DSP Program Specialist (Focus on Outreach/Engagement) Q3 2022 – Q3 2023
  - 6B: Staffing Phase 2 – Expand and Deepen DSP Team: Anticipated Additions – Additional Engineers, Additional Community Engagement Support, Support for Project Delivery TBD anticipated Q3 2024 – Q1 2025

Near-Term Action Plan – Current Innovations and Pilots

Pilots and Innovations:

- Irrigation Load Control (Pilot moving to program in 2023)
- Oregon Energy Storage Pilot: Pilot 2 MW, 6 MWh battery .
- North Santiam Canyon Targeted Energy Efficiency: Pilot from 2017 – 2018 to explore impact of targeted Energy Efficiency.
- Oregon Community Solar: Customers receive utility bill credits in exchange for buying for leasing part of a community solar project.
- PacifiCorp Blue Sky: Renewable Energy Credit program.
- Pumped Storage: PacifiCorp has submitted plans for 13 pumped storage sites throughout its service area.
- Transportation Electrification:
  - EVs — Rebates for installation of Level 2 EV chargers at customer homes or places of business.
  - Electric highway corridors — Expansion of the existing electric fast charger network in Oregon.
- Time-of-Use Pricing: Offers time-of-use pricing, which sets lower rates for nonpeak electrical usage.

Grid Modernization Program: Application of advanced technology, communications, and controls to the power system. In flight programs to support grid modernization, include:

- Advanced Metering Infrastructure: Smart meter deployment to over 600,000 PacifiCorp customers.
- Smart Devices/SCADA Deployment: Deploy digital "smart" devices used for control of analysis of power system conditions.
- Distribution Automation (DA)/FLISR: DA or fault location, isolation and service restoration (FLISR) functionality advance the "self-healing" that can be delivered by using "smart" devices.

PacifiCorp Targeted Reliability Programs:

- FIOLI: Fuse it Or Lose It
- Saving SAIDI
- DRIP — Distribution Reliability Improvement Program
- EFI — Enhanced Fault Indication

6) Conclusion

Much work lies ahead to continue evolution of DSP toward future stages, as framed in the DSP Guidelines.

The Near-Term Action Plan recognizes the importance of continuous improvement, iterative development and continued stakeholder engagement as key components on the path to these broad, ambitious goals. In addition, successful evolution will require an unprecedented level of collaboration both externally — across multiple regulatory dockets and stakeholders' competing priorities — and internally across multiple operating areas and planning functions.

The Company believes that this DSP Part 2 report and Near-Term Action Plan represent a pragmatic and thoughtful approach to continuing this evolution.



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Additional Information

- DSP Email / Distribution List Contact Information
  - DSP@pacificorp.com
- DSP Webpages
  - Pacific Power Oregon DSP Website
  - Planificación del Sistema de Distribución de Oregón (pacificorp.com)
- Additional Resources
  - PacifiCorp's DSP Part 1 Report
  - PacifiCorp's DSP Part 2 Report
  - DSP Pilot Project Suggestion Form
  - Pacific Power's 2019 Oregon Smart Grid Report
  - Pacific Power's Oregon Transportation Electrification Plan
  - PacifiCorp's Integrated Resource Plan

Thank You!






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