March 2, 2021

MEMORANDUM

TO: Power Committee
FROM: Chad Madron
SUBJECT: Power Plan Project Timing Check-In

BACKGROUND:

Presenter: Ben Kujala, Chad Madron
Summary: Staff will provide an overview of power plan related presentations and findings to date and discuss the schedule for the coming months of power committee work.
2021 NW Power Plan Status
Topics From Last 3 Months

• January 12
  • Power Plan Timing Update
  • Overview of Hydrogen
  • Exports/Imports in RPM
  • Review of Baseline Conditions Modeling Results

• January 28
  • Update on Power Plan Needs Assessment (Adequacy Reserve Margin)
  • Baseline Conditions Modeling Results Update
  • Relative costs of resources and update on Robustness of EE scenario approach

• February 9 + 10
  • Robustness of EE Scenario Findings
  • State of Utilities Report and Update on 2020 Loads and Covid Impacts
  • Summary of Baseline Condition Modeling Results for Power Plan

• Other past Plan Related Presentations to the Power Committee or Full Council...
Plan Related Topics This Month

Power Committee
• Update on Power Plan Needs Assessment (ASCC)
• Summary of System Integration Forum’s exploration of energy equity in the 2021 Power Plan
• Rates and Bills Modeling and Regional Portfolio Model (RPM)
• Power Plan Timing Update

Full Council
• Robustness of EE Scenario Summary
• State of the Region's EE Programs: Successes and Challenges of Adapting to COVID
Proposed Schedule Updates
2021 Power Plan Work Schedule
Revised December 2020

Model Based Analysis

2020

- Finalize Electricity Price Forecast
  Nov 2020
- Adequacy, RPM and other Modeling Updates

2021

- Model Based Scenario Analysis - January - May 2021
- First Scenario Results Presentations
  Jan/Feb 2021
- Develop Plan Written Content, Including Power Comm Review
  Feb - June
- Draft Plan Released
  July 2021
- Updates after Comment Period

2021

- Power Plan Final
  Oct 2021
- Final Written Sections
- Final Scenario Related Presentations
  Power Comm
  May 2020

2022

- Updates after Comment Period

Public Hearings
<table>
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<tr>
<th>Month</th>
<th>Tasks</th>
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| March    | • Update on Power Plan Needs Assessment (ASCC)  
              • Rates and Bills Modeling                                       |
| Late March | • Early Coal Retirement  
                        • Greenhouse Gas Tipping Point                                       |
| April    | • Extra Regional Markets and Adequacy  
                    • Markets for Energy/Capacity  
                    • Early look at BPA Scenario                                           |
| Late April | • Bonneville Portfolio  
                     • Including related load, model runs, other findings                   |
| May      | • Bonneville Portfolio  
                     • Including related load, model runs, other findings  
                     • Overview of Pathways to Decarbonization Scenario                   |
| Late May | • Pathways to Decarbonization Scenario  
                      • Written material for plan review                                        |

These dates will likely change
<table>
<thead>
<tr>
<th>June</th>
<th>Late June</th>
<th>July</th>
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<tbody>
<tr>
<td>• Scenario discussion wrap up</td>
<td>• Written material for plan review</td>
<td>• Written material for plan review</td>
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<tr>
<td>• Written material for plan review</td>
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<td>• Release of Draft Plan</td>
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<td>August</td>
<td>August/September</td>
<td>October</td>
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<td>• Public Comment</td>
<td>• Public Hearings</td>
<td>• Release final plan</td>
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<td>• Planning for public hearings</td>
<td>• Plan updates between draft and final</td>
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These dates will likely change
Questions?
Extra Slides for Reference
Plan Related Presentations to the Power Committee or Full Council

- Scenario Analysis
  - Summary of Baseline Condition Modeling Results for Power Plan (02/2021)
  - Robustness of EE Scenario Findings (02/2021)
  - Relative costs of resources and update on Robustness of EE scenario approach (01/28/2020)
  - BPA scenario update (06/2020)
  - Scenarios proposed for inclusion (07/2019)

- Resource Strategy
  - Update on Power Plan Needs Assessment (Adequacy Reserve Margin) (01/28/2020)
  - Baseline Conditions Modeling Results Update (01/28/2020)
  - Exports/Imports in RPM (01/2021)
  - Review of Baseline Conditions Modeling Results (01/2021)
  - First look at Baseline Conditions RPM Results (12/15/2020)
  - Adequacy results from Redeveloped GENESYS (12/15/2020)
  - Overview of updates to Regional Portfolio Model (12/15/2020)
Plan Related Presentations to the Power Committee or Full Council

• Resource Strategy Continued
  • First look at redeveloped GENESYS result (12/03/2020)
  • Wholesale Electricity Price Forecast Update (11/2020)
  • Electricity Price Forecast Updates (10/2020)
  • Wholesale Electricity Forecast Results Part 2 (09/2020)
  • Challenges with RPM Methodology (09/2020)
  • Adequacy Update (ASCC/ARM) for 2021 Power Plan Part 2
  • Electricity Price Forecast Part 1 (08/2020)
  • Adequacy Update (ASCC/ARM) for 2021 Power Plan Part 1 (08/2020)
  • Briefings on Power Plan Analytical Process (02 - 04/2020)
  • Updates to RPM Methodologies (01/2020)
  • Overview of Plan and how the proposed resource strategy is developed (05/2019)
Plan Related Presentations to the Power Committee or Full Council

- Conservation and Energy Efficiency
  - [Comments](#) on Draft Framework for Conservation Program (10/2020)
  - [Initial Conservation Target Framework](#) (08/2020)
  - [EE Supply Curves](#) for Baseline and for Scenario Analysis (05/2020)
  - EE Typical [Meteorological Year Adjustment](#) (04/2020)
  - Draft EE Supply Curves (03/2020)
  - Briefing on Lighting Standards and Considerations for the 2021 Power Plan (02/2020)
  - Update on planning parameters for EE supply curves (08/2019)

- Generation Resources
  - Update on WECC-Wide Clean Policy Wrap Up (08/2020)
  - Summary of primary generating resource reference plants and emerging tech reference plant for draft 2021 Power Plan (06/2020)
  - Update on Existing System, Coal Retirements, and Policies (05/2020)
  - Update on historical regional greenhouse gas emissions (04/2020)
  - Draft natural gas reference plants & Draft conventional geothermal reference plant (02/2020)
  - Draft Pumped storage reference plant (12/2019)
  - Onshore Wind Generation Reference Plant (11/2019)
  - Solar, Battery Storage, and Solar + Battery Storage Reference Plants (10/2019)
  - Review of Existing System and WECC-Wide Coal Retirements (09/2019)
Plan Related Presentations to the Power Committee or Full Council

• Load and Price Forecasts
  • Load Forecast Updates (08/2020)
  • Briefing on upstream methane in Power Plan (06/2020)
  • BPA Load forecast (04/2020)
  • Out-of-region load forecast and California climate-inclusive load forecast (04/2020)
  • Updates to load and other forecasts based on GCM Selection (02/2020)
  • Further Detail on Load Forecast (10/2019)
  • Forecast of Draft Loads w/Frozen Efficiency for 2021 Power Plan/Related GCMs, (09/2019)
  • Economic drivers for the plan (04/2019)
  • Upstream Methane (01/2020)
  • Update on Wholesale Electricity Price Forecast and Avoided Emissions Rate (11/2019)
  • Natural Gas Price Forecast for 2021 Power Plan (11/2019)

• Climate Change
  • Update on Climate Scenario Selection (04/2020)
  • General Circulation Model Scenario Selection (11/2019)
  • Intro to Climate change and the 2021 power plan (04/2019)
Plan Related Presentations to the Power Committee or Full Council

PLUS:

- [State of Utilities Report](#) and Update on 2020 Loads and Covid Impacts (02/2021)
- [Overview](#) of Hydrogen (01/2021)
- [State of Electric Utilities 2019](#) (12/2020)
- [DEI at Advisory Committees - key takeaways](#) (12/2020)
- [Results](#) from stakeholder survey on use of previous power plan content (08/2020)
- [Development](#) of technical written material for the Power Plan (07/2020)
- [Stakeholder survey](#) regarding use of previous plan's written content and supporting materials (07/2020)
- [Update](#) on New Version of GENESYS (05/2020)
- Draft DR Supply Curves (03/2020)
- Review State Clean Energy Policies and Impact on 2021 Plan Analysis
- [Briefing](#) on methodology for quantifying the environmental costs and benefits of new resources for the 2021 Power Plan (09/2019)
- [Environmental Methodology Development Primer](#) (8/2019)
- Establishing global financial and economic [assumptions](#) for the 2021 Power Plan (07/2019)
- Establish existing system parameters and interpret state policies (07/2019)
- [Consistent Treatment](#) of Quantifiable Resource Costs (03/2019)
- [Proposed discount rate](#) for the 2021 Power Plan (02/2019)