January 7, 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

- November
  - Wholesale Electricity Price Forecast Update

- December 3
  - First look at redeveloped GENESYS result

- December 15
  - Power Plan timing overview - Including new proposed draft release date
  - State of Electric Utilities 2019
  - DEI at Advisory Committees - key takeaways
  - Overview of updates to Regional Portfolio Model
  - First look at Baseline Conditions RPM Results
  - Adequacy results from Redeveloped GENESYS

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

• Power Plan Timing Update
• Overview of Hydrogen
• Exports/Imports in RPM
• Review of Baseline Conditions Modeling Results
• Update on Power Plan needs assessment (ARM)
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

Q4 2020

2021
- Model Based Scenario Analysis - January - May 2021
- Final Written Sections

Q1 2021
- First Scenario Results Presentations
  Jan/Feb 2021
- Develop Plan Written Content, Including Power Comm Review
  Feb - June

Q2 2021
- Final Scenario Related Presentations
  Power Comm May 2020
- Final Written Sections

Q3 2021
- Updates after Comment Period
- Public Hearings

Q4 2021
- Draft Plan Released
  July 2021
- Power Plan Final
  Oct 2021
Late January

- Baseline Conditions (if needed)
- Robustness of EE
- Update on Power Plan needs assessment
- Relative Costs of Resources

February

- Modeling findings and updates as needed

Late February

- Early Coal Retirement

March

- Extra Regional Markets and Adequacy
- Markets for Energy/Capacity

Late March

- Greenhouse Gas Tipping Point

April

- Bonneville Portfolio
  - Including related load, model runs, other findings

These dates will likely change
<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Task Details</th>
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| Late April | • Bonneville Portfolio  
  • Including related load, model runs, other findings  
  • Pathways to Decarbonization inputs |
| May        | • Bonneville wrap up if needed  
  • Pathways to Decarbonization  
  • Early written material review |
| Late May   | • Pathways to Decarbonization wrap up  
  • Written material for plan review |
| June       | • Written material for plan review |
| Late June  | • Written material for plan review |
| July       | • Written material for plan review  
  • Release of Draft Plan |

These dates will likely change
Questions?
Extra Slides for Reference
Plan Related Presentations to the Power Committee or Full Council

• Scenario Analysis
  • BPA scenario update (06/2020)
  • Review of Plan Scenarios – Part 1 (01/2020) & Part 2 (02/2020)
  • Scenarios proposed for inclusion (07/2019)

• Resource Strategy
  • 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)
  • 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:

• **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)