Jennifer Anders Chair Montana

> Tim Baker Montana

Guy Norman Washington

Patrick Oshie Washington



April 2, 2019

Richard Devlin Vice Chair Oregon

> Ted Ferrioli Oregon

> > Jim Yost Idaho

Jeffery C. Allen Idaho

MEMORANDUM

TO: Council Members

FROM: Chad Madron

SUBJECT: High Level Update on Power Division Work Plan

BACKGROUND:

Presenter: Chad Madron, Project Analyst

Summary This presentation is an update on Power Division 2019 work plan

priorities. This update is intended to be a high-level sampling of key

projects and is not comprehensive.

Work on the 2021 Power Plan has begun in earnest in 2019 and we have split the tasks into those related directly to power plan development and

those that are ongoing or project related.

Staff will review the high-level list, revisit the overall power plan schedule and give an example of the more detailed project plans staff uses to guide

their internal processes.

Relevance The Power Division maintains work and project plan documentation

tracking what division staff is doing to develop the next power plan, implement the Seventh Plan, manage ongoing tasks and upgrade analytical capabilities. This documentation is an important part of division

collaboration, teamwork and communication.

2019

Updated April 2019

| 1. Guide affordable, adequate, clean energy future, develop the 2021 Northwest Power Plan and maintain analytical capability | | | |
|--|--|--|--|
| Action | Work Area | Timeframe (Calendar Year) | |
| A. Develop the 2021 Power Plan | A.1. Conservation | | |
| | 1.Develop cost and availability of energy efficiency as a resource, to be used in the 2021 Power Plan (EE supply curves) | Iterated in 2019, final in March 2020 | |
| | 2. Review methodologies and other information with CRAC - equipment stock turnover, T+D deferral, etc | Throughout 2019 | |
| | A.2. Demand Response | | |
| | Develop cost and availability of demand response to be used in the 2021 Power Plan (DR supply curves) | Iterated in 2019, final in March 2020 | |
| | 2. Review methodologies and other information with DRAC | Throughout 2019 | |
| | A.3. Forecasting and Economic Analysis | | |
| | Develop Base Load Forecast: Price Effects & Frozen Efficiency Forecast for 2021 Power Plan | 2019 | |
| | 2. Work on transportation and end use gas components of 2021 power plan | 2019 | |
| | 3. Produce Natural Gas Price Forecast for 2021 Plan | 2019 | |
| | 4. Enhance long term forecast model with solar plus battery | 2019 | |
| | 5. Review methodologies and other information with DFAC/NGAC | Throughout 2019 | |

2019

| | Updated April 2019 |
|---|--------------------------------|
| | |
| A.4. Generation Resources | |
| Develop Generating Resource reference plants for 2021 | Iterated in 2019, final in Mar |
| power plan (incl. review w. GRAC) | 2020 |
| Develop environmental methodology, transmission | |
| availability, RPS, emissions and other data sets for the 2021 | Throughout 2019, 2020 |
| Plan. | 1 |
| | |
| A.5. System Analysis | |
| Complete Testing of Redeveloped GENESYS | 2019 |
| 2. Updates to models to get ready for 2021 power plan | 2019 |
| modeling | 2019 |
| Run models using test data sets | Late 2019/early 2020 |
| 3. Review methodologies and other information with SAAC | Throughout 2019 |
| | 1 |
| A.6. Additional Items | |
| 1. Plan related external communication and coordination with | Ongoing through Plan proce |
| outside stakeholders | Chigoling through Flatt proce |
| | |

2019

Updated April 2019

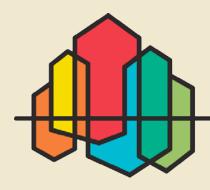
| B. Ongoing | B.1. Conservation | |
|-------------------------------------|--|---|
| work separate from Power Plan | 1. Coordinate with regional entities (e.g. NEEA, BPA, utilities, regulators) to ensure the regional goal for cost-effective conservation is achieved. Cuts across a number of Action Items, ongoing priority | RCP Results reported annually. |
| | Work with regional entities to ensure the model conservation standards are implemented, Cuts across MCS Action Items, ongoing priority | |
| | 3. Continue to lead the Regional Technical Forum and engage in the development and approval of measure savings estimates and protocols | Budget/Workplan Approval in October of each year, RCP results annually, Annual Report in June of each year |
| | 4. Enhance the understanding and use of capacity impacts from conservation. Cuts across a number of Action Items, includes tracking Utility IRPs, BPA EE Planning, is an ongoing priority | Part of RCP Results reported annually and ongoing tracking of IRPs |
| | 5. Ongoing priorities like tracking emerging technology, working with end use load projects, etc | |
| | B.2. Demand Response | |
| | Convene advisory committee to explore barriers and strategies to demand response development | DRAC meetings held quarterly |
| | 2. Coordinate with regional utilities and Bonneville to ensure demand response costs, capabilities, and potential are included in planning documents. | Ongoing |
| | B.3. Forecasting and Economic Analysis | |
| | Continued monitoring of regional sales, loads and temperatures | Ongoing |
| | 2. Continued monitoring of economic picture of the region | Ongoing |
| | Continued enhancement of Council's economic and forecasting models for loads, sales and fuel prices. | Ongoing |
| | 4. Continued monitoring of natural gas and oil situation in the region, national and international markets. | Ongoing |
| | 5. Fuel-cycle emission modeling for natural gas and coal | Ongoing |
| | | |

2019

Updated April 2019

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|---|----------------------|
| B.4. Generation Resources | |
| Enhance Council's resource revenue requirements finance model – MicroFin | Ongoing |
| 2. Track/update generating resource datasets - new/existing projects, generation, RPS, environmental legislation, transmission, emissions, etc. | Ongoing |
| 3. Track regional and WECC-wide integrated resource plans | Ongoing |
| B.5. System Analysis | |
| Complete Annual Adequacy Assessments - Ongoing, Implementation | Annually |
| Complete Wholesale Electricity Price and Avoided Emissions Rate study | Annually |

Power Plan Development Process and Schedule

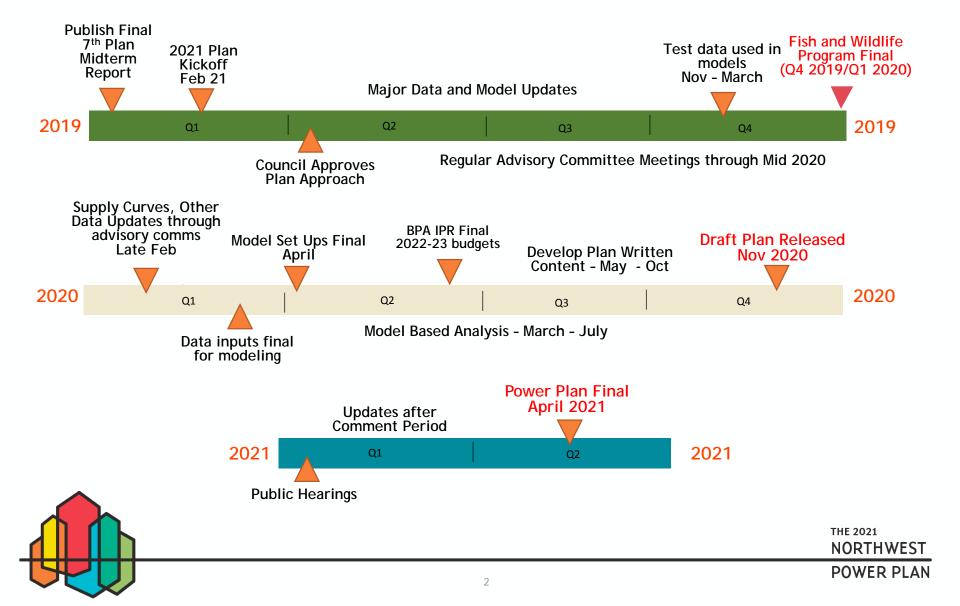


THE 2021
NORTHWEST

POWER PLAN

FOR A SECURE & AFFORDABLE ENERGY FUTURE

2021 Power Plan Work Schedule



2021 Power Plan High Level Work Timeline Part 1

| Tasks | Timing |
|--|------------------------------|
| 2021 Plan Kick-Off Meeting | February 21, 2019 |
| Propose Power Plan High Level Approach and Organization | March 2019 - Power Committee |
| Staff breaks down into team tasks and creates a more detailed timeline | April 2019 |
| Discussion of possible analytical focus for planning, identifying unique modeling, logic, data needs | June - August 2019 |
| Final proposed set of scenarios to analyze presented to Council | August 2019 |
| Test set of data for use in testing models complete | November 2019 |

(Last Updated 4/2019)



2021 Power Plan High Level Work Timeline Part 2

| Tasks | Timing |
|--|----------------------------|
| Models tested | November 2019 - March 2020 |
| Supply Curves/Load Forecast/Gen Resources for plan through Advisory comm process | January/February 2020 |
| Generation Resources Data Ready for ASCC/System Analysis Work | January 2020 |
| All data inputs for models final | Late March 2020 |
| Finalize model set ups related to analysis priorities | November 2019 - March 2020 |
| All models final and locked for use for runs for Plan | April 2020 |
| Model based analysis | March - July 2020 |
| Develop and present draft plan findings | April - Sept 2020 |



2021 Power Plan High Level Work Timeline Part 3

| Tasks | Timing |
|--|---|
| Write early sections of plan | May - July 2020 |
| Update technical material posted online as available | Ongoing (replaces appendices) |
| Write final sections | June - September 2020 |
| Draft plan presented to Council | October 2020 (final edits from Members received ahead of Nov meeting) |
| Council releases Draft Plan for public comment | November 2020 |
| Public Hearings | January - February 2021 |
| Council Approves Final Plan | April 2021 |

