Northwest Power and Conservation Council
Meeting Summary
June 14, 2022
Portland, Oregon and Webinar

Council Chair Guy Norman brought the meeting to order at 3:30 p.m. Council Members Jeffery Allen, Doug Grob, Ginny Burdick, KC Golden, Jim Yost, Louie Pitt Jr., and Mike Milburn were in attendance in Portland, Oregon. The next Council meeting is scheduled for July 12-13, 2022.

Reports from Committees

Fish and Wildlife Committee

Member Allen, Fish and Wildlife Committee Chair, reported on the Fish and Wildlife Committee meeting held on June 14.

1. Falconry As an Innovative New Technique to Control Avian Predation in the Columbia River Basin

Blaine Parker of the Columbia River Inter-Tribal Fish Commission (CRITFC) presented on the history of falconry and its potential uses to control avian predation on fish. It is appropriate that CRITFC brought this forward because they've been trying to bring attention to avian predation for years now. They've been using falconry at Miller Rocks and the Dalles Dam and all entities are pleased with the results so far.

2. Steigerwald Reconnection Project

This project started in 2013 and construction is wrapping up this year. It has been a lengthy and expensive project at $32 million, 80% of which has been covered by the BPA. The results have been impressive thus far as they've increased the shallow water habitat in this area of the Columbia River Gorge by 20%, and this benefits all fish.

Power Committee

Member Yost, Power Committee Chair, reported on the Power Committee Meeting held on June 14, 2022.

1. Quick Staff Introductions

Council Members traveled to Portland for in-person meetings and took time to meet the Council's Power Division, many not having met face-to-face in a few years, or meeting in person for the first time. Council staff reviewed current projects and roles and

responsibilities with Council Members.

2. Primer on the Wholesale Electricity Price Forecast

Manager of Planning and Analysis John Ollis reviewed some plan observations about market fundamentals, described the process used to create the upcoming market price forecast, and described how the forecast fits into the plan implementation. Wholesale power markets outside the region were highlighted as a key data point to monitor coming out of the 2021 Power Plan in which policy changes throughout the western states impacted not just wholesale power markets in the long term, but also in the short term. This update reviews the process of the next wholesale power price forecast study for which some work has already commenced and how the results support the Council's upcoming adequacy assessment.

3. Bonneville's Resource Program

Bonneville staff continued their presentation of its Resource Program. Bonneville's Resource Program develops forecasts of federal system energy, capacity, and balancing needs and evaluates resource development solutions to meet those needs. The timeframe for the next Bonneville Resource Program is 2024-2033, which aligns with the beginning of the next rate case.

Fish and Wildlife and Power Committee meeting materials for June 2022 can be found here: https://www.nwcouncil.org/calendar/council-meeting-june-14-2022/

Public Affairs Committee

Member Pitt, Public Affairs Committee Chair, is working with Executive Director Bill Edmonds and staff to plan a trip to Washington DC to meet with federal representatives. The Public Affairs Committee selected mid to late September 2022 to have the visit.

Council Meeting Agenda Items

1. Council Decision: Asset Management Strategic Plan priorities for FY2023 for hatcheries and screens

Project Review and Implementation Manager Mark Fritsch introduced Andy Traylor of the Fish and Wildlife Division of the Bonneville Power Administration to review the Asset Management Strategic Plan priorities for FY2023 for hatcheries and screens. The Fish and Wildlife Committee recommends the Council support the request from the Asset Management Subcommittee for non-routine maintenance for fish screens and hatcheries in FY2023 at $231,380 and $268,620, respectively, for a total of $500,000.

Member Pitt emphasized the role of Bonneville as a key partner in protecting fish and wildlife and that he wants to make sure that all partners including Bonneville step up and do their part to protect investments for fish and wildlife in the future.

Vice Chair Grob moved that the Council recommend that Bonneville fund non-routine maintenance for fish screens and hatcheries in FY2023 at $231,380 and $268,620, respectively, for a total of $500,000 as recommended by the Council's Asset Management Subcommittee and Fish and Wildlife Committee and as presented by staff.

Member Allen seconded.
No discussion.
Voice vote – all in favor, none opposed.
Motion was approved.

Presentation materials are posted with this summary here:
https://www.nwcouncil.org/fs/17773/2022_06_1.pdf

2. Discussion of Bonneville's Strategic Asset Management Plans and ties to the upcoming Integrated Program Review

Fish and Wildlife Division Director Patty O'Toole introduced Jason Sweet, Executive Manager of the Bonneville Fish and Wildlife Program. Sweet and Rodrigo George, BPA's Fish and Wildlife Program Manager of Business Operations and Support reported on the development of the 2022 Environment, Fish and Wildlife Strategic Asset Management Plan (SAMP). The Environment, Fish and Wildlife SAMP addresses Fish and Wildlife Program assets and is organized by the same categories as the jointly developed Council/Bonneville Asset Management Strategic Plan: lands, hatcheries, and fish screens.

George said BPA initiated this effort in 2016 to improve the maturity of asset management at an agency level providing an outlook of assets for the next 5 or 10 years and updated every 2 years. The SAMPS describe the current condition, performance and risks of assets funded by BPA, outline long-term goals, objectives, and current initiatives, and provide a standard format for all categories of Bonneville assets and are continuously improved. George showed how assets are prioritized as mission critical, essential, non-essential, and beneficial.

For hatcheries, the operations and maintenance (O&M) expense levels have been consistent or increasing since 2016, spending over $40 million in each the last few years. BPA's goals for its hatchery programs are to continue funding them to meet mitigation objectives ensure efficient asset operations through annual O&M funding, to address nonrecurring maintenance needs, to use assessments to prioritize and address critical maintenance and replacement, and to take advantage of lessons learned from past

projects.

For lands, the capital and expense budgets fluctuate due to being liable to the willingness of landowners. The goals for the lands program are to acquire lands to address fish and wildlife habitat mitigation of the hydroelectric system in accordance with the Northwest Power Act, and to fulfill commitments to comply with the endangered Species Act, to assess the feasibility of permanently extinguishing BPA O&M expense obligations through the pursuit of settlements, and to improve compliance and monitoring reporting capabilities.

The fish screens program has been expense only funded since 2017. O&M expenses have increased annually from $4.1 million in 2017 to $5.3 million in 2021. Goals of the fish screen program are to sustain BPA's investments in fish screens to satisfy mitigation obligations, and to reduce mortality of all life stages of salmon, steelhead, and other fish species that are at risk of being diverted into irrigation canals.

Sweet and George highlighted the coordination and collaboration between the project sponsors in the region, the Council, and BPA to make this work possible. Sweet mentioned that starting in 2024, BPA has budgeted $2.8 million, up from $500,000, to help address the condition of these hatcheries and aging infrastructure issues. To sustain these efforts into the future, Sweet anticipates increases in funding and staffing going forward.

Member Allen and Chair Norman expressed that they appreciate the additional $2.3 million in funding and that this process to date has been successful. Member Pitt also expressed his thanks.

Presentation materials are posted with this summary here:
https://www.nwcouncil.org/fs/17772/2022_06_2.pdf

Northwest Power and Conservation Council
Meeting Summary
June 15, 2022
Portland, Oregon and Webinar

Council Chair Guy Norman brought the meeting to order at 9:00 a.m. Council Members Jeffery Allen, Doug Grob, Ginny Burdick, KC Golden, Jim Yost, Louie Pitt Jr., and Mike Milburn were in attendance in Portland, Oregon. The next Council meeting is scheduled for July 12-13, 2022.

3. PNUCC's Northwest Regional Forecast Report

Jennifer Light, Interim Power Division Director, introduced Shauna McReynolds, Pacific Northwest Utilities Conference Committee (PNUCC) Executive Director to review PNUCC's

Northwest Regional Forecast Report (NRF). This report is a summation of the region's loads and resources over the next ten years from the utilities' perspective. The NRF provides a forecast of loads and resource supply to identify potential needs in the near future. This is similar to the Council's annual resource adequacy assessment which will be completed later this year, but the NRF differs in that it is essentially the sum of each utilities' load forecast and current/expected resources, providing an expected projection of future needs.

McReynolds took some time to introduce the Council to PNUCC's new staff members Crystal Ball, Deputy Director and Aliza Seelig, Analytics and Policy Director. She described both as capable veterans that have a history with the Council in previous roles and expressed her excitement and confidence in them in their new roles.

McReynolds began by reviewing the history PNUCC. She highlighted that for 70 years, the NRF has served as a barometer for the region from the utilities' perspective. She believes that tracking year-to-year trends in a consistent manner is where the real value of the report lies. The report focuses on winter and summer 1-hour peaks.

McReynolds showed that current load forecasts are up from last year. She believes this is due to pessimism last year at how long COVID recovery would take and that recovery happened faster than expected. She also cited the increased migration to certain parts of the region such as Boise, Idaho. McReynolds showed that utility load growth rates are shifting upward, and about 40% to half of the reported load directly or implicitly accounts for climate change and increased electrification, but she believes that within a year or two it will be 100%.

Energy efficiency and other demand side resources are major factors in utilities' long-term planning. The NRF shows the forecast of cumulative energy efficiency savings steadily increasing. Utility EE programs these programs reach the range of efficiency savings in the 2027 operating year that the Council calls for in its 2021 Power Plan.

McReynolds highlighted a significant increase in non-carbon resources. Coal generation is reduced significantly through 2026 with a portion of that being converted to natural gas as utilities add more solar, wind, and storage to their portfolios.

McReynolds also noted that peak needs continue to grow over time and the summer load resource gap has caught up to the winter gap by 2031, which is a new trend they've been seeing. This is perhaps due to utilities folding in climate change, hotter summers, and/or less flexibility from hydro. She said demand response and other potential new generating resources are growing to meet these needs.

Member Golden asked McReynolds to give a sense of utilities' expectations with the prospect of shifting a lot of the load to electricity. McReynolds said that utilities are looking

very closely at electrification with the understanding of what infrastructure needs to be developed for it to take place. People need to buy the cars and chargers need to be installed, etc. The same goes for heating, with new rules being put into place in Washington state, for example. No new buildings can have natural gas heating, but there is still a lot of existing natural gas, and it will take time to change that over to electric. Utilities are just now building that reality into their projections. McReynolds also emphasized the customer role in all of this is bigger than ever. The policies are changing, and that is the will of the people, but they need to understand what it is going to take to get there in terms of behavior changes and the building of infrastructure.

Member Burdick pointed out that as the emphasis in the discussion has been on finding new sources of power, generation, and capacity, but she feels that a real weakness in the system is in transmission and vulnerability during climate events. She asked what is going on in the utility space to address this problem. McReynolds said that there are utility organizations such as Western Power Pool that are working to coordinate operations to meet need. She also mentioned the planning is taking place throughout the region with the planning association NorthernGrid with the challenges being figuring out what needs to be built and where, and who is going to pay for it.

Chair Norman thanked McReynolds for her presentation, congratulated her on her coming retirement, and thanked her for her contributions to the region over a 40-year career.

Presentation materials are posted with this summary here:
https://www.nwcouncil.org/fs/17774/2022_06_3.pdf

4. Regional Technical Forum (RTF) Annual Report

Regional Technical Forum (RTF) Manager Jennifer Light, and RTF Assistant Annika Roberts gave an overview of the RTF and presented the RTF 2021 Annual Report. This report is intended to inform the Council and stakeholders about the RTF's activities in the previous year and to provide a brief preview of the ongoing work in the current calendar year.

The RTF is an advisory committee to the Council. It is funded by Bonneville, Energy Trust of Oregon, and regional utilities. The Council also contributes to the RTF through staff and office and meeting space.

Despite 2021 being another year of meeting and working entirely remotely, the RTF was able to focus on its core efforts of developing consistent and reliable energy savings estimates and methodologies and accomplish a lot over the course of the year. The RTF continued their central work of developing and maintaining conservation measures, including in newer areas like commercial HVAC, as well as improving upon long-standing efficiency measures like manufactured home duct sealing and irrigation hardware. This also

included expanding and improving their suite of natural gas measures, building on the groundwork laid in 2020 to develop new measures in natural gas space and water heating. The RTF also worked in 2021 to expand their offerings beyond unit energy savings, into more complex and nuanced work in hopes of helping programs adapt to the changing energy landscape.

Member Golden mentioned that natural gas is not strictly in the Council's purview and asked how the RTF sees the role of gas with the Council. Light said that in any measure that was saving both gas and electricity, they were already analyzing both pieces because it is part of the total benefit of the efficiency measure. They recognize that the use of natural gas does interplay with the power system, and understanding that use and interplay is going to be important. There was also a push from gas utilities and regulators to get have more robust analysis around their efficiency work. The gas expertise in the region has not been at the same level as electricity, and the RTF has been able to move it forward. The RTF has also been able to bring that gas expertise into the region to understand those tradeoffs and technologies as they may apply to the region.

Member Grob asked how unique and recognized the RTF is nationally, and if other regions are interacting with the RTF, partnering with the RTF, providing information, or using the RTF's work product. Light said that when she started with the RTF 8 years ago, people were already using the RTF's data and analyses, and their documents would often reference the RTF's work. In California, a California Technical Forum has been created, so they see the value of an independent body coming together to do that analysis. The RTF also uses other expertise from across the nation. She said that overall the RTF is well known for its expertise.

The 2021 RTF Annual Report can be found here:
https://nwcouncil.app.box.com/v/2021RTFAnnualReport

Presentation materials are posted with this summary here:
https://www.nwcouncil.org/fs/17781/2022_06_4.pdf

5. Intro and High-Level Overview of Fuels Work at the Council and a Panel on Clean Fuels and Related Programs in WA and OR

Principal Analyst Steven Simmons provided a high-level overview of fuels work at the Council.

From the Energy Information Agency (EIA), fuel is defined as "Any material substance that can be consumed to supply heat or power. Included are petroleum, coal, and natural gas (the fossil fuels), and other consumable materials, such as uranium, biomass, and hydrogen".

As part the of the power planning process, traditionally the Council has developed analyses and price forecasts for fuels used in power generation such as natural gas and coal.

However, the region's energy and power systems are becoming more intertwined with the increased electrification of transportation, buildings, and industry, as well as a move toward low carbon intensity fuels. The 2021 Power Plan was the first to include an analysis of the regional roadway transportation system, and an analysis of the potential use of hydrogen as a fuel for transportation and industry, as well as an estimate of the electrical load resulting from hydrogen production. As power planning continues, there will be an increased emphasis to understand the full implication the trends and policies to reduce the use of fossil fuels in the region and the extent to which the power system will enable this transition.

Simmons said the top three fossil fuels in order by consumption in the four states' region are natural gas, motor gasoline, and diesel. While the latter two are primarily vehicle fuels, natural gas is versatile and is used for electricity generation, heating and cooking, industrial processes, and transportation. In addition to the traditional natural gas analysis, the Council's Northwest 2021 Power Plan for the first time includes analyses of roadway transportation fuels and future hydrogen production and uses in the region.

Glenn Blackmon, Manager of the Washington State Energy Policy Office, told the Council that the state's 2021 Washington State Energy Strategy evaluates all energy uses across the entire economy to the year 2050 and was designed to align with the state's clean electricity laws and greenhouse gas emission limits. Electrification is a key component of the strategy and by 2050, the strategy envisions electricity as the dominate form of energy for the state.

Blackmon also said clean hydrogen is an important piece of the strategy, but it does not have a significant role until later in the planning horizon. Blackmon also said that hydrogen use in the state and the production of hydrogen to meet that demand may be separate. In other words, it may come down to tradeoffs between the ability of the electrical transmission system to deliver renewable electricity to hydrogen production sites in the state versus the fuel being produced elsewhere and being delivered to the state via pipeline.

Stephanie Celt, Senior Energy Policy Specialist at the Washington energy office, said there is strong interest in hydrogen in Washington as the result of the state's bold strategy to transition to a fully clean energy system and specific policies related to hydrogen. The U.S. Department of Energy (DOE) has launched a program to provide funding for clean hydrogen hubs across the country. These hubs are expected to support production and use of clean hydrogen. Celt noted that the priorities of the DOE hydrogen program align with Washington's priorities. For instance, the DOE program focuses on equity-, environmental-, and energy-justice impacts, which aligns well with Washington's 2021 Healthy Environment for All (HEAL) Act, described on the website of the Washington Department of Health as "…

a historic step toward eliminating environmental and health disparities among communities of color and low-income households."

Colin McConnaha, manager of the Office of Greenhouse Gas Programs at the Oregon Department of Energy, said Oregon's Clean Fuels Program was implemented in 2016 to address transportation fuels. Transportation fuels contribute roughly 36 percent of statewide emissions. For the electricity sector, Oregon enacted a suite of clean energy bills in 2021 that require electric utilities to provide 100-percent clean electricity by 2040.
Continuing the state's focus on responding to climate-change impacts, this year the Oregon Department of Environmental Quality will begin implementing the Climate Protection Program, which will apply to natural gas fuel use in buildings and transportation. This program will help to drive electrification and possible hydrogen use. Combined, these programs will address roughly 75 percent of Oregon's greenhouse gas emission sources.

The Clean Fuels Program was designed to reduce the carbon intensity of transportation fuels sold in Oregon. As Cory-Ann Wind, the Oregon Clean Fuels Program Manager, explained, the program is focused on lifecycle emissions, not just tailpipe emissions. This approach accounts for the full "well-to-wheels" emissions for petroleum-based fuels, and also for cleaner biofuels such as ethanol. Wind said the carbon intensity of biofuels such as biodiesel can vary substantially. "It really depends on what the fuel is made from; is it from used cooking oil? If so then the carbon intensity is very low," she said, "But if it's made from soybeans, a crop, then the energy inputs are higher, and the final fuel product has a higher carbon intensity."

To date, the Clean Fuels Program has been very successful in reducing the amount of greenhouse gas released from liquid transportation fuels in the state and, has also enabled electric utilities in the Oregon to invest nearly $44 million in electric vehicle infrastructure. A key point from this program, Wind said, is that it is possible that eventually transportation will fully transition to electric drives, either plug-in battery electric or fuel cells, but in the meantime low-carbon biofuels like renewable diesel can help lower emissions from existing vehicle use.

Member Grob mentioned that in his experience, electric cars have a very limited range in colder northern climates, and he asked Blackmon and Celt if small hydrogen vehicles could be a viable, affordable alternative in those climates. Blackmon said that he is unsure about the effectiveness of interior heating in hydrogen fuel cell vehicle, but cars that run on synthetic liquid fuels from hydrogen or biogenic materials may be a viable option in colder rural areas.

Presentation materials are posted with this summary here:
https://www.nwcouncil.org/fs/17775/2022_06_5.pdf

6. Council Business

Council approval of the May 2022 Council Meeting Minutes

Vice-Chair Grob moved that the Council approve for the signature of the Vice-Chair the minutes of the May 18, 2022 Council Meeting held in Whitefish, Montana, as presented by staff.

Member Yost seconded.
No discussion.
Voice vote – all in favor, none opposed.
Motion was approved.

Motion to approve renewal of DRAC, DFAC, CRAC, GRAC, RAAC, and SAAC Charters

Vice-Chair Grob moved that the Council renew, for a period of two years, the charters for the Demand Response Advisory Committee (DRAC), Demand Forecast Advisory Committee (DFAC), Conservation Resources Advisory Committee (CRAC), Generating Resources Advisory Committee (GRAC), Resource Adequacy Advisory Committee (RAAC), and System Analysis Advisory Committee (SAAC), as presented by staff.

Member Yost seconded.
No discussion.
Voice vote – all in favor, none opposed.
Motion was approved.

Motion to approve the membership for the Resource Adequacy Advisory Committee (RAAC)

Vice-Chair Grob moved that the Council approve the membership for the Resource Adequacy Advisory Committee (RAAC) as presented by staff, [with the changes made by the Members at today's meeting].

Member Yost seconded.
No discussion.
Voice vote – all in favor, none opposed.
Motion was approved.

Motion to approve the Fuels Advisory Committee (FAC) Charter

Vice-Chair Grob moved that the Council approve the charter for the Fuels Advisory Committee (FAC), for a period of two years, as presented by staff, [with the changes made by the Members at today's meeting].

Member Yost seconded.
No discussion.
Voice vote – all in favor, none opposed.
Motion was approved.

Public Comment

There were no participants for public comment.

Chair Norman adjourned the meeting at 12:17 p.m.

Northwest Power and Conservation Council meeting materials for June 2022 can be found here: https://www.nwcouncil.org/calendar/council-meeting-june-14-2022/