

PNWCCREPORT Council



Northwest Power and Conservation Council

**Meeting Notes
May 16- 17, 2017
Boise, Idaho**

The rising Boise River edged toward flooding stage as the full Council met in Idaho’s capital. Precipitation this year has been well above average and snowpack in the Boise watershed is 174 percent of normal. It had locals keeping a nervous eye on waterfowl swimming down 46th Street.

Some of the high points of the Boise meeting included updates on Idaho Power’s latest IRP and entry into the energy imbalance market (EIM), how the Idaho Public Utilities Commission is managing PURPA solar projects and a staff analysis on how the hydro system can boost the capacity value of thermal and renewable resources. Finally, Council Members heard about the slippery predicament of growing rafts of rampaging sea lions chomping into listed salmon.

The next Council meeting is slated for June 13 and 14 in Corvallis, Oregon.

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The Agenda

Idaho Power next to take the EIM leap

Tess Park, vice president of power supply for Idaho Power, was upbeat about being an eastside entity joining a California energy market. Idaho Power signed an agreement with CAISO to participate in the western Energy Imbalance Market (EIM) starting April 2018. “Many said Idaho would never go into the California market, looking back at the energy crisis,” she said. She said that Idaho Power spent a lot of

time working with Northwest entities trying to develop a Northwest market. But the transmission issue “kept rearing its ugly head.”

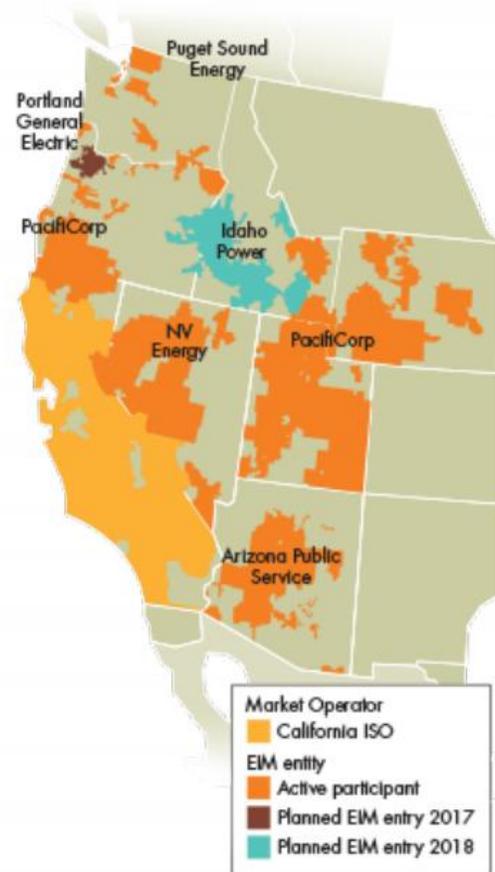
Idaho Power conducted a benefit and cost study and decided that participation in the EIM would produce cost savings for Idaho Power’s customers. Park said the benefits were between \$4–5 million a year and the costs were \$500,000 a year – “and we felt the benefits were conservative.” The benefits include lower production costs, better visibility for system operations in the Western Interconnection and improved renewable resource integration.

Idaho isn’t the only entity joining. “Portland General Electric goes this fall and Salt River Project announced they’re joining,” Park said. “It’s a lot more resources and a lot more diversity. East-side peaks are different than west. We peak in July due to irrigation, whereas others peak in August and September. It should result in lower prices for everyone.”

Park explained what an EIM entails:

1. An EIM is a real-time market that economically dispatches low-cost power to balance fluctuations in generation and load.
2. An EIM efficiently resolves imbalances in real-time through an automated, five-minute dispatch across multiple balancing areas.
3. Generation resources are bid into the market on a voluntary basis. There’s no requirement for “must offer.” They are now working with market monitoring on how to set up bid and cost basis for the hydro system to protect that resource.
4. It provides forward-looking transmission congestion management. There’s an economic penalty to not sticking to your schedule. So they’ve gotten more accurate. It looks at congestion constraints prior to dispatching resources.

Member Booth asked about the prospect of Bonneville Power joining. Park said that BPA isn’t participating in EIM, and that there are legal and regulatory issues as to why. She said CAISO and BPA have talked over ideas on how they could participate. However, BPA Administrator Elliot Mainzer announced six months ago that they were going to set up tools and processes so they could participate in a market at some point. Park said she thinks in 10 years there will be a western market.



Idaho PUC works to reduce costly PURPA projects

Kristine Raper, a commissioner with the Idaho Public Utilities Commission, outlined the challenges for utilities that are forced to bring on more Public Utility Regulatory Policies Act (PURPA) contracts.



Raper explained that Congress passed PURPA in 1978 in response to the nation's energy crisis. The intent was to help small power producers and small generation get into the market. If a qualifying facility (QF) goes to the utility and wants them to buy the power, the utility has to consider it. Plus, the utility is supposed to pay the QF for the cost of coming online. Idaho had a lot of run of river hydro, geothermal, small wind and solar, cogeneration, but in 2010, they began to see large wind projects trying to come in under PURPA.

“Large players, such as BP and Shell, were getting large projects built under PURPA by disaggregating them into smaller, 20 MW projects,” Raper said. “They wouldn't qualify under PURPA to get the avoided cost rate and the 20-year price. So, they disaggregate the project to get the 20-year rate. We believe that's against the intent of PURPA.”

For Idaho to manage these projects coming in, the commission changed the calculation of avoided costs for those projects. That's when multiple project owners took the issue to FERC. “We're infamous for being the first state commission taken to court by FERC,” Raper said. The litigation ended up being settled.

By 2015, the utilities said they were being overwhelmed. Raper said that Idaho Power only needed 1,100 MW to satisfy their customers on a low-peak day. However, their QFs alone were generating 1,300–1,400 MW, which had to be purchased with 100 percent of the costs borne by ratepayers.

“It's about the avoided cost being set for a long-time period,” she explained. “As the time runs, 8-10-12 years, the excess is exacerbated. It's out of sync with what the avoided costs are.” Therefore, the commission issued an order to set the contract at two years instead of 20. As long as PURPA exists, the mandatory purchase option exists, Raper said. They renegotiate the energy rate every two years, based on what the avoided costs to the utilities is.

Member Lorenzen complimented the Idaho Commission's action: “PURPA is a wonderful idea, but it's gone sideways due to the inability to calculate avoided costs,” he said. “I compliment you on grabbing this by the horns and watching out for your ratepayers.”

Idaho Power sees solar and other PURPA in next IRP

Also with Idaho Power, Michael Darrington, energy contracts leader, told the Council that Idaho Power is generation surplus until at least 2025 according to their 2017 IRP analysis. And resources included that mix include utility solar and PURPA solar projects.

With some history on how Idaho Power got to 1,115 MW of non-utility, renewable generation via PURPA, Darrington noted that some of the earliest projects were under 30-year terms and now coming up for renewal. Wind makes up half of their non-utility, intermittent resources and solar is the next largest share at 290 MW. In the context of resource planning these PURPA contracts have a price obligation much higher than the Mid-C market price looking at historical and future costs and prices.

Darrington said the 14 solar projects that make up the 290 are mostly located in Southwestern Idaho and Eastern Oregon. He reminded the Council that solar is an intermittent resource and that it can present operational challenges when it goes offline. He shared an example of an April day this year, where roughly 50% of the installed capacity went off line in just 15 minutes as clouds unexpectedly appeared. And with an abundance of water supply this year, they have experienced several generation curtailments. When this happens, the priority is to take dispatchable resources offline first, and leave the PURPA projects as the last resort.

Studying how hydro adds capacity value to region's resources

The Council was briefed on a staff analysis of the benefits of storage in the Northwest's hydropower system and how it can augment the capacity value of energy-efficiency and generating resources. Member Karier and John Fazio, staff senior power system analyst, have worked on this study for months, which has culminated in an article in *Electricity Journal*. The analysis concludes that when resources are integrated into the hydropower system the capacity value for Columbia Gorge wind can triple from initially low values, and increase the capacity value of Southern Idaho solar by a factor of 10. Energy efficiency has the highest overall increase in capacity value relative to average energy.

The study compared the use of a resource with and without it being integrated into the system. When resources are treated as a standalone the system won't be operated as optimally. In the integrated case, a resource can be available during light-load hours, allowing water to be stored for use in the peak hours and essentially increase the peaking capability of the hydro system. For example, in their study, adding 930 MW of energy efficiency, reduced the MW need by 713 MW in the standalone example. In the integrated example, it reduced the MW need by 1,184 MW.

"Using a standalone energy-efficiency capacity contribution, the standalone capacity value was 77 percent — integrated was 127 percent, which is gain of 50 percent," Fazio said. He also pointed to a solar study. "We operate hydro to minimize spikes and shortages, and to flatten it out."

Fazio added that all these values were incorporated into the Regional Portfolio Model to help the Council develop its resource strategy. It helps ensure that the potential build-out of resources will deliver an adequate supply.

Our region's hydropower "is a phenomenal system," Council Member Tom Karier said. "You can turn it on and off quickly to integrate other resources, it's carbon free and is like a system of batteries. But it's complicated because it's not always available. For example, there is very little storage capacity in the spring. Other times, there's a lot of storage capacity."

Congress tries again to pass legislation to remove sea lions

California sea lion populations are booming, noted Council Member Guy Norman. Having returned from a site tour of the sea lion predation operation facilities at Bonneville Dam, he provided a sobering picture of the situation.

Sea lion populations once were as low as 10,000 in the 1950s and are now as high as 300,000. They used to feed at the mouth of the Columbia, but now they've moved upriver and favor dining on salmon. There are 32 populations of ESA-listed spring Chinook harmed by sea lions. NOAA research has shown that 18-45 percent of upriver spring Chinook are lost before reaching Bonneville Dam. This is after accounting for harvest and other losses. In addition, Steller sea lions, which also feed on white sturgeon, have gotten into the act at Bonneville.



Since 2008, states have trapped and removed 166 California sea lions that were documented “repeat offenders.” To remove a sea lion is cumbersome. They have to record the activity of individual sea lions and put them on lists that qualify them for removal. A bill has been introduced to grant states and tribal managers more flexibility in addressing predatory sea lions.

The *Endangered Salmon and Fisheries Predation Prevention Act H.R. 2083* was introduced by Congresswoman Herrera-Beutler (R-WA) and Congressman Kurt Schrader (D-OR) last April. It's about the fifth time a bill like this has been introduced, Member Norman said. In 2014, the full house passed the bill, but the senate didn't take it up.

The legislation would allow managers to address problems at locations other than Bonneville Dam, change the criteria for removal, no longer require repeat presence and salmon consumption, and would expand annual removal limits.

Council briefs

[Adequacy Assessment at 6 percent for 2021 and 2022](#)

The Power Committee had a first look at the latest Resource Adequacy Assessment. Committee Chair Karier reported that in 2021 and 2022, the region is right on the margin of adequacy. “We try to have it under five percent adequacy, and we're looking in the neighborhood of six percent,” he said.

In addition, there was a description of system adequacy with a focus on where the region might be most at risk of having enough power. They also looked at the conditions that lead to that. For instance, events in the winter are much larger in magnitude, but are less frequent. Summer events are of a smaller magnitude and more frequent.

PacifiCorp IRP charts course for replacing coal with energy efficiency and renewables

PacifiCorp presented its integrated resource plan (IRP) to the Power Committee, showing how it plans to meet 88 percent of its growth with energy efficiency. The utility also plans to retire coal plant capacity in the range of 750 MW by 2025, and 3,600 MW by 2036. It plans to replace it with energy efficiency and renewables. PacifiCorp told the committee there will be 1,100 MW of new wind coming online by 2020. Plus, it is repowering existing wind sites — 950 MW of existing wind will be renovated with new turbines and rotors to increase the efficiency by more than 30 percent. There also are a number of investments in demand response that will come later in the period. PacifiCorp's coal emissions also will be dropping 20–21 percent over the next 10-20 years.

Council argues merits of its 2014 F&W Program before the Ninth Circuit

On May 11, Northwest Resource Information Center's (NRIC) challenge to the Council's 2014 Fish and Wildlife Program was only the second time in 37 years that the Program has gotten to an oral argument before the Ninth Circuit.

John Shurts, staff general counsel, said the presiding judges focused on what does the Power Act require of the Council in its program, how well did the Council meet the substantive standards and procedures, is there something the Council should be doing that it's not, and how well did the Council explain what it was doing?

Each side had 20 minutes to present. Shurts said that there were plenty of interveners in attendance supporting the Council, including attorneys from the Northwest RiverPartners, the assistant attorney general from Montana and Idaho, attorneys from the Kootenai, and Spokane tribes, and members from BPA's general counsel's office. The Ninth Circuit usually takes between six and 18 months to produce an opinion, Shurts said, but the Council should get guidance in time for the next Fish and Wildlife Program. A recording of the oral argument is on the [web](#).