PNWCC REPORT Council

Northwest Power and Conservation Council

Meeting Notes - April 10 & 11, 2016
Missoula, Montana

The Council's Missoula meeting explored launching new technologies in Montana, including a new pumped hydro facility and Co-op efforts to expand community solar resources.

A recommendation for Bonneville to proceed with the assessment of habitat restoration above Grand Coulee and Chief Joseph dams was approved, amid dissention from Idaho's Council Members.

Finally, NOAA shared its *Fisheries' 2015 Adult Sockeye Passage Report*, which detailed the impact of the historically warm temperatures in the Columbia River Basin.

The next regular Council Meeting will be in Boise: May 10-11, 2016.

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The Agenda

Planned pumped hydro facility to provide balancing capacity

The Gordon Butte Hydro Pumped Storage Facility, located in central Montana, will consist of upper and lower closed-loop reservoirs connected by an underground concrete and steel-lined hydraulic shaft. The project will be an off-stream facility, built away from any existing watersheds, which minimizes impacts to the local watersheds and riparian ecosystems.

Once completed, Gordon Butte's Hydro Pumped Storage facility will provide capacity to meet peak loads, and storage to move energy from low-peak to high-peak hours. As Pacific Northwest hydro becomes increasingly constrained, utilities need balancing capability to

manage system variability in loads and renewable generation, said Carl Borgquist president of Montana-based Absaroka Energy. This facility will do that, he said.

"We filed a final license application with FERC last October that was accepted on November 16th which we regard as a land-speed record for moving through the process," Borgquist said. "We've had a lot of cooperation with FERC, and they are keen to expedite the license on closed-loop facilities."

The underground powerhouse generators would provide an installed capacity of 400 megawatts, allowing for an estimated annual energy generation of 1,300 gigawatt hours. The project would be built near Colstrip Transmission lines.

"We see the facility performing multiple duties at the same time," Borgquist explained.

"At night, the grid is full and it's challenging to get electrons used. We have a lot of Columbia Gorge wind blowing at night and a huge transmission line with nothing on the east end.

We want to take run-of-river hydro and wind at night, and regulate that. We pump at night. During the day, we go to gen mode and still handle the integration of wind outbound east of the Colstrip system to replace coal capacity. This facility is in a strategic location to get more value out of the facilities in the ground," he said.

With the regulatory hurdles almost complete, the company is trying to raise about a billion dollars and secure off-take contracts with utilities or Balancing Authorities.

Asked why there aren't more of these facilities under development, Borgquist replied that any time you dig the exponential costs and risks go up. He said that the Gordon Butte site is very revealed and the reservoirs are close, so it's an easy build.

Community solar campaigns test customer commitment

A collection of Montana Co-ops discovered the depth of customer commitment to renewables through their community solar efforts in Montana. Representatives from Flathead Electric Cooperative, Ravalli Electric Cooperative and Missoula Electric Cooperative briefed the Council on their recent forays into marketing community solar.

Flathead Electric's Ross Holter, energy services supervisor, said his Co-op's project consists of 356 solar panels. To date, 256 of the 285-watt panels have been sold with the entire project expecting to sell out soon. After a 30 percent federal tax credit is applied, customers are realizing a 15 to 21-year payback on their $630 net investment.

Jim Maunder, Ravalli Electric Cooperative's manager of member services said they used the results of a member survey to design their pre-sale community solar program. With funding through matching grants from Bonneville and USDA, phase one, consisting of 88 panels, sold out. They are currently working on phase two pre-sale.

Missoula also surveyed its members and discovered community solar is a foreign concept for most customers. "Our mix from BPA is 95 percent carbon free, so we pitched them on offsetting that last five percent," said Dan Rogers, spokesman for Missoula Electric Cooperative.

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>
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Missoula Electric launched phase one of their solar sales effort with price of $700 per panel, and sold 176 panels by end of last February.

"Our board was forward-thinking and voted to approve phase two, and we're working with an elementary school to install it on their roof," Rogers said.

Council approves habitat assessment above Grand Coulee dam

The Council recommended that Bonneville implement the proposal for an assessment of habitat above Grand Coulee dam. The vote was 6-2, with Idaho Council Members Jim Yost and Bill Booth dissenting.

Members Yost and Booth stated that while they support providing some salmon for tribes above the dams, the challenges and associated costs to ratepayers are too great to support this proposal.

Washington Council Members Phil Rockefeller and Tom Karier both spoke in favor of the motion, saying that several science panels and organizations (including tribal, state and federal agencies) have favored a study of reintroduction. They pointed to the cost savings workgroup that identified funds to cover the cost of the study which is not to exceed $200,000.

Wicked summer temperatures impact 2015 sockeye passage

Low-flow conditions, coupled with extremely high air temperatures and warm water in the major tributaries to the lower Snake and Columbia rivers resulted in the highest main stem temperatures recorded in the Columbia River between mid-June to mid-July in 2015. Although water temperatures were much higher than normal, releases from reservoirs reduced temperatures downstream. Yet, according to Ritchie Graves, chief of the Columbia Hydropower branch at NOAA Fisheries, the adult sockeye salmon return in 2015 was large compared to recent decades.

While June and July river temperatures in 2015 were unprecedented, NOAA indicated there might be similar events in the future. They will use lessons learned to aid in developing triggers and contingency plans to:

- Improve ladder temperature monitoring and reporting;
- Provide faster decision-making;
- Improve PIT tag detection systems; and
- Improve transport versus in-river assessments.

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