



Northwest Power and Conservation Council

Meeting Notes

November 15-16, 2016

Portland, Oregon

The Council put a feather in its cap when they announced the region significantly surpassed the energy-efficiency targets identified in the Sixth Northwest Power Plan. The November meeting also provided a sneak preview of the presentation on Bonneville’s Tributary Habitat Framework and the concerns raised by Council members following years of effort, millions of dollars’ investment and limited data on the results. And, the Council heard about lessons learned on fish passage at high head dams where emphasis was placed on the value of taking an individual, measured approach to each structure.

The next Council meeting will return to Portland, Oregon on December 13th and 14th.

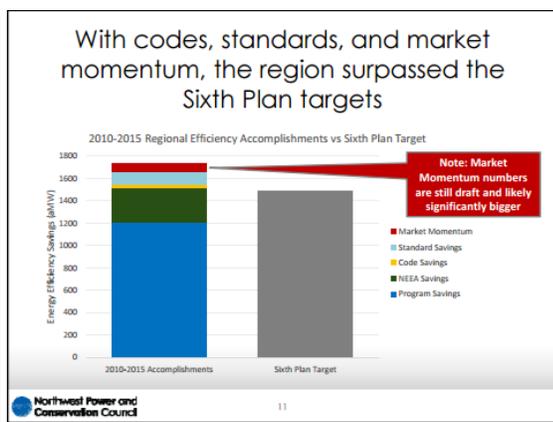
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The Agenda

The book is closed: Region exceeds Sixth Plan conservation goals 1,739 aMW of energy efficiency acquired from 2010 through 2015

Excitement filled the air as Jennifer Light, Regional Technical Forum manager, was finally able to report the region well surpassed the Council's Sixth Plan energy-efficiency targets by over 500 aMW. The savings were acquired with a combination of programs and, with the acquisition of 284 aMW additional energy efficiency in 2015, the total for the six year period beginning in 2010 surpassed 1,739 aMW, she said. This was in contrast to the Sixth Plan target of 1,200 aMW of energy efficiency.



Most of the utility-funded programs tallied are from the residential sector (47%), she said, although commercial savings (33%) continue to grow.

Programs invested more than \$440 million in energy efficiency in 2015. And, Northwest Energy Efficiency Alliance (NEEA) contributes to significant energy efficiency acquisition through new market development.

Looking at savings over the longer term, the region has achieved almost 6,000 MWa of conservation since 1978, making it the second-largest resource behind hydro, Light said. That means there's been enough energy savings to save the region's electric consumers \$4.06 billion in 2015, and lowered carbon emissions 23.5 million metric tons equivalent. "That's the same as removing almost five million passenger vehicles off the road," she said.

Council Chair Henry Lorenzen inquired if acquiring conservation will be more expensive going forward. Charlie Grist, staff conservation resources manager, replied that in the last couple of years, the cost per kWh saved has been going up. Noting that as codes and standards evolve to become part of the base, what's left becomes smaller and harder to get. The Energy Trust is getting savings from commercial buildings, but now they have to get it from a bunch of smaller customers rather than a few large customers.

Council Member Tom Karier reflected on the region's achievement: "This closes the book on the Sixth Power Plan and, looking back, it was successful in almost every respect. The Council set a target at the time that was considered ambitious and controversial. I remember great debates that the targets were not achievable. They were too high and too difficult. Yet the region not only met them, it surpassed them at a very low cost. Looking at the cost to utilities for acquiring it, at below \$20 per kWh is phenomenally cheap. Plus, it's a great hedge for the future: 1,739 MW of carbon-free power that we don't have to replace in the future."

Where is the data to support Bonneville's Tributary Habitat Framework Frustration mounts without results and data to support investment

What started as a preview for a December presentation on Bonneville's Tributary Habitat Framework, culminated in pointed comments and a warning from Council Member Karier on the programs' expense and lack of measurable results.

In advance of December's meeting, Nancy Leonard, staff's fish, wildlife and ecosystem monitoring and evaluation manager, discussed the expected deliverables related to the Council's 2013 conditions on Bonneville's program-wide approach to tributary habitat for assessing habitat condition and action effectiveness related to the following programs: Columbia Habitat Monitoring Program (CHaMP), Integrated Status and Effectiveness Monitoring Program (ISEMP) and Action Effectiveness Monitoring of Tributary Habitat Improvement (AEM).

Leonard said a lot of work is being done to see if there is a change in habitat using different tools to detect changes in the fish population. And, they may have answers in a short time or it may take quite a bit of time.

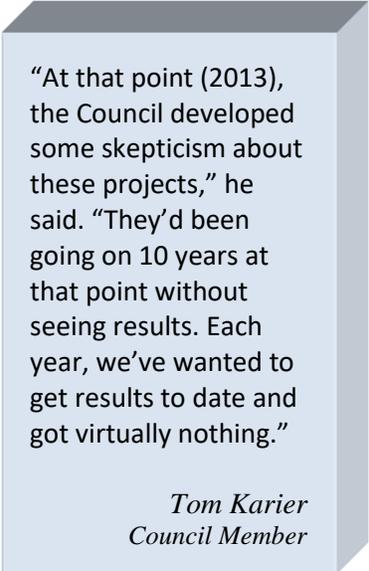
Member Karier expressed frustration with the lack of concrete data from the work, recalling that the Council had similar concerns during a review in 2013. "At that point, the Council developed some skepticism about these projects," he said. "They'd been going on 10 years at that point without seeing results. Each year, we've wanted to get results to date and got virtually nothing."

He said the questions they had then are the questions they have now. What are the benefits of these investments on fish abundance and productivity?

All totaled, \$75 million has been spent over a decade on the three projects, with little in the way of results. "It's a critical uncertainty in our research and they've provided very little," he said. "I'm at a point where I'd like to see BPA have an organized closure of CHaMP and ISEMP, and salvage whatever information is useful. It needs to be replaced with more-focused and effective project."

Council Member Jennifer Anders questioned the alternatives. "We need to understand the relationship between fish and habitat," she said. "So, what do we do and how do we get there?"

Katie McDonald, BPA fish and wildlife project manager, said that the CHaMP and ISEMP projects are a huge component of meeting Bonneville's Endangered Species Act (ESA) obligations under the FCRPS Biological Opinion (BiOp). Adding, BPA has worked to better



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*Tom Karier
Council Member*

understand the relationship between habitat actions and fish responses in the last six months. “It appears we have a higher level of certainty in understanding current conditions, implementing an action and understanding a subsequent habitat response,” she said.

Member Karier replied that one of the reasons the BiOp lost in court was because the federal agencies couldn’t justify the habitat investments and the amount of benefits they were ascribing to it. Going forward, the results –measured benefits of habitat investment on fish abundance, particularly what’s working and why it’s working will need to be captured for program support and funding to continue.

Council Member Jim Yost said, “The Council is responsible for this nest we made. There isn’t a single project we put out for review that doesn’t require a lot of review and monitoring, he said. We’re trying to figure out if it’s necessary or not. We know we have to get a handle on this stuff. We know we need additional abundance, we know we need more juvenile and spawning habitat, and try to take the next step to do it. We have opportunities to cut a lot of programs, but we just write nasty grams.”

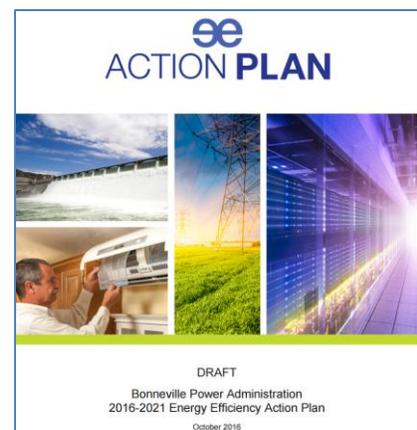
Council staff weighs in on BPA’s draft Energy Efficiency Action Plan **Uncertainties may play role in how Plan is implemented**

Bonneville’s draft Energy Efficiency Action Plan for 2016-2021 is roughly on track but according to Charlie Grist, staff conservation resources manager, there are uncertainties that Bonneville and its customer utilities may face in implementing it. Savings in the Plan represent 570 aMW, slightly under the Council’s target of 588 aMW from the Seventh Power Plan.

Grist said that in formulating its Plan, Bonneville used the same four categories of savings as the Council: utility program savings funded by energy efficiency incentives, utility program savings self-funded by utilities, market transformation savings from NEEA, and momentum savings from new state codes, federal standards, or market uptake. The Plan concludes that Bonneville and its customers can meet the six-year goal set out of the Seventh Plan with the resources identified and expected level of savings.

Grist pointed out that there are significant uncertainties that BPA may face in implementing it and they could have done a better job in identifying the risks, which in turn could help guide BPA’s decision making as circumstances change.

Some uncertainties identified include a new Administration, the pace at which new standards are adopted and, with BPA one-step removed from its utility funders, the actual level of utility self-funding, could create these uncertainties.



Looking at self-funding as an example, he said, Bonneville’s goal of 96 aMW by 2021 from utility self-funding is included in the Plan. Yet, about 80 percent of BPA’s customer utilities representing 60 percent of the load didn’t participate in self-funding in the last three years. “It’s coming from the six largest utilities in BPA’s system,” he said. “We think there’s a significant risk here.”

Grist outlined the areas of risk for meeting targets. He provided the Council with staff’s proposed comments on the EE Plan, that include areas of uncertainty and recommendations for technical changes. Chair Lorenzen said he would review the letter.

Fish passage technologies at high head dams

Lessons learned, unique differences result in one size doesn’t fit all

“One size doesn’t fit all” was one of the key messages conveyed in a staff presentation on fish passage approaches at tall dams in the Columbia River Basin. Laura Robinson, program implementation and liaison specialist, and Jim Ruff, J. Ruff Consulting LLC, provided a high-level presentation of the staff paper: *Review of Fish Passage Technologies at High-head Dams*.

The paper’s purpose is to identify and evaluate the current methods and effectiveness of fish passage systems used at high head dams, or technologies that could be applied to dams at similar or greater-sized capacity, such as at Chief Joseph and Grand Coulee dams. The paper addresses a call in the Council’s 2014 Columbia River Basin Fish and Wildlife Program for studies and evaluations to inform what is known generally about fish passage.



The first of a three-phase strategy calls for studies and evaluations to inform what is known generally about fish passage, as well as to learn about the quality of the habitat in the Columbia River and its tributaries above Chief Joseph and Grand Coulee dams.

The habitat evaluation portion is being conducted by the Spokane Tribe, and is scheduled for completion by the end of 2017.

A decision about whether to implement the second phase of the strategy will be informed by the staff paper and the habitat analysis.

The staff’s study examined 20 different locations where fish passage has been studied, completed or attempted. Robinson and Ruff described six key concepts in planning for high head dam fish passage:

1. Allow adequate time for evaluations and feasibility studies.
2. Do not evaluate or compare existing fish-passage projects on the basis of cost, as variations in site characteristics and the age of passage systems make cost comparisons

- inaccurate. Don't expect an approach will yield the same results everywhere. Realistic goals need to be set up, in collaboration with fish manager, tribes and other stakeholders.
3. Understand and account for differences in site characteristics. The size of a passage project needs to be scaled for the specific characteristics at each site. Behavior will be different at each dam.
 4. Stay up to date with passage technologies, as fish passage technology is evolving and improving. Different approaches have been tried over the past 60 years. Reviewing older studies is important, but newer studies should be relied upon going forward.
 5. Collaboration among project owners, regulators, fish and wildlife agencies, scientists and interested parties is critical to successful, large-scale anadromous fish passage projects. It's not easy, but it's critical for necessary permitting and operation. Collaboration is critical at the regional level as well.
 6. Consider developing a science-based decision framework for new projects to help organize and assess all the biological, environmental, hydraulic, technical, and economic data for a range of passage alternatives under consideration at each site

In evaluating passage, they recommended that fishery managers should consider the following questions:

- What is the end goal or objective for fish? For example, the goal could be to achieve a natural, self-sustaining population; or it could be to gain cultural, biological and economic benefits as the result of passage.
- Where should the juvenile fish collector be located?
- What types of fish passage systems should be evaluated at each project? Each site will be unique and these systems are quite expensive. One size does not fit all.

While the presentation was well-received by Council members, Member Bill Booth remarked that he felt strongly that the predation issues need to be addressed if they're going to focus on introducing fish into Lake Roosevelt. He said it would be introducing a species into a reservoir that hasn't been there in years. There are predatory species such as bass, and Booth said he believes this should be elevated as a key consideration. Ruff replied that it is in the paper and should have been listed as one of the key concepts.

Member Booth followed asking about economic considerations. "We should get some kind of handle on it at the front end, but I don't see that," he said.

Fish and Wildlife Division Director Tony Grover said they looked at experience at other facilities and did not prognosticate on Grand Coulee and Chief Joseph. However, they could move forward on those evaluations if requested. Robinson said more studies are required to determine the costs and what specific types of collectors would be used.

Council briefs

Regional Technical Forum unveils a sparkling-new, easy to use website

The Regional Technical Forum (RTF) launched its updated website, providing visitors with easy-to-find work products, subcommittee reports and a calendar of events. It's also optimized for mobile devices. It can be found at: <https://rtf.nwcouncil.org>

"Our staff maintenance on the new site will be dramatically reduced," said Jennifer Light, RTF manager. "Every time someone adopts a measure, we can capture it and talk about it."

Wind to continue serving significant load

The Power Committee received an update from Council staff on the current state of wind technology and where it's headed. Currently, the region has 8,000 MW of wind, representing about 10 percent of the electric energy in the Northwest. Member Karier said that turbines last 20-25 years, and are becoming larger, less costly with higher capacity factors. They'll be factoring that into the Council's Eighth Power Plan.

NW Energy Efficiency Leadership focuses on energy efficiency opportunities

In his Power Committee report, Member Karier also discussed outcomes from a recent meeting of the Northwest Energy Efficiency Leadership Group, where CEOs and managers meet to discuss issues and solutions. Three recommendations from the forum include:

1. **Supporting a rate structure and business model to ensure continuing energy efficiency acquisition.** This period of low load growth has created problems in energy efficiency acquisition, and utilities have asked for a solution.
2. **Develop conservation transfer agreements.** Contractual transfer of public utility efficiency savings to IOUs used to exist. There is interest in trying to revive this concept.
3. **Support the study of end-use patterns.** The idea is to track electricity usage by modern appliances to improve peak load forecasts, and to understand the benefits of energy efficiency to reduce those peak loads.

Allocation of \$510,000 in cost savings from Fish and Wildlife workgroup

Discussion continued on allocation of the cost savings from the Fish and Wildlife priority program areas. At the end of the discussion, the Council deferred to Member Anders, Chair of Fish and Wildlife, on reallocation of the savings.