

PNWCC REPORT Council



Northwest Power and Conservation Council September 8-9, 2014

The Council, meeting in Portland, showed a lot of interest in how a regional Energy Imbalance Market is shaping up. Prepping for the Seventh Plan, the Power Committee wrestled with carbon’s role in quantifying environmental costs and benefits and tossed around new ideas for reliability indicators, before approving the release of two issue papers for public comment. Council members congratulated themselves on completing a full slog through the draft Fish and Wildlife program, with adoption of the final version set for October. Next Meeting: October 7-8 in Pendleton, Oregon.

In This Issue

Wanted: Advice from the Region on Power Metrics for the Plan	1
What’s the Scoop on the SCED?	4
F&W Program Coming Down the Home Stretch	6
BPA and Idaho Reach \$40 Million Wildlife Settlement	8

The Agenda

Wanted: Advice from the Region on Power Metrics for the Plan



At the Power Committee meeting, Council staff presented a draft issue paper on a methodology for quantifying environmental costs and benefits, which they said would be a key piece of the Seventh Power Plan. The Northwest Power Act requires such a methodology, and it would inform analyses on generating resources and costs and conservation supply curves in the plan, according to staffer John Shurts.

We are asking the committee to approve releasing this paper so we can get public comment, he said. One issue we would particularly like to hear about is the treatment of the environmental effects of resources not yet subject to regulatory control, especially carbon dioxide emissions, Shurts stated. We would like to hear how EPA’s rules for controlling emissions from power plants should be reflected in the plan, he said. In developing the plan, we will run scenarios of how the new rules affect the existing Northwest power system, and those results could dictate the plan’s resource strategy, Shurts added.

In the Sixth Power Plan, we thought there was a risk of a carbon penalty so we included a number for it, and that turned out to be an unwise decision, stated Jim Yost. The plan ended up reflecting the uncertainty at the federal government level, he said. We are not giving utilities guidance if we cause them to be risk-adverse, Yost added. In light of decisions already made on Boardman and Centralia, we don't have a coal issue in the Northwest so we ought not to focus on coal in this power plan, he said.

Our focus should be on natural gas emissions with respect to EPA's 111(d) rule, Yost stated. We might consider comparing emissions from power plants to the emissions caused by cars and other vehicles, and by doing that, we might be able to give the region some useful information, he said. We could get policymakers to focus on an area where we can get more bang for the buck, Yost added.

A carbon penalty may not be an immediate risk, but we have to do our best to evaluate emissions from coal and natural gas versus relying more on renewables and energy efficiency, said Tom Karier. For new resources, you have to quantify environmental costs and compare them with the existing system, stated Shurts. We are asking for comment on what's the best way to capture those costs so the plan gives the right guidance, he said. If we did apply a cost to carbon, we could look at the Northwest system to see if it would be within Section 111(d) constraints, and the plan could provide information on what it would take for the region to meet those constraints, Karier said.

The question is the impact our plan would have on utilities' decisions, stated Henry Lorenzen. We want our plan to be realistic, and I worry about having a plan that is nice

theoretically, but can't be used to make resource decisions, he said.

Staffer Tom Eckman pointed out the issue paper has a chapter called "BPA guidance." With its Tier 1 and 2 contracts, BPA is not out buying new power resources, said Lorenzen. All we need to do for BPA is tell it to do energy efficiency and come back in five years, Yost said. If we are short on resources, we'll rely on utilities to build them – it will be the publics or the IOUs or merchants who build them, he added. BPA does acquire significant resources, stated Karier. Conservation is a significant resource acquisition, and the Council provides a target for what the region can acquire, he said.

A difference between the Sixth plan and Seventh plan is that Congress failed to act when the Sixth plan was put together, but now the Executive Branch has acted by issuing the 111(d) rule, Pat Smith noted. He asked about the time frame for that rule. It is uncertain, replied Eckman, adding that it will take years for the states to prepare implementation plans under the rule. Those are more likely to affect the Eighth plan, he said.

Other topics in the paper on which the Council would like comment, Shurts said, are: treatment of residual environmental effects beyond regulatory controls, incorporation of quantifiable environmental benefits, and treatment of the environmental effects of new renewable resources. We have heard a lot about the cumulative effect of the development of renewable resources across the landscape in our Fish and Wildlife (F&W) program amendment process, he noted.

Shurts suggested BPA could fund a study of the location-specific effects of renewables and consider where additional projects should be sited in the region. Wind and solar resources have environmental effects, and the question

is whether the Council should be doing more work on the effect of renewable resources on F&W, he said.

There's a heightened level of interest in these topics in the public forum and the courts, and it makes sense for us to put this paper out and gather input, stated Smith. I think we will be inundated from all sides, he added. Carbon is the "hot-button issue" in the plan, observed Eckman, before the committee approved releasing the paper.

High Level Indicators for Power

Eckman presented a draft paper discussing a proposed set of high level indicators (HLI). These are designed to serve as metrics against which progress can be measured on power planning and achieving the purposes of the Power Act, such as encouraging conservation and the development of renewable resources, and assuring the region of an adequate, efficient, economical, and reliable power supply, he said.

Eckman went over the proposed metrics for conservation which include cumulative savings, annual utility program savings versus plan targets, and electricity used per person. Proposed metrics for renewable resources include cumulative development since 1980 and trends in renewable resource capital costs, he noted.

Loss of load probability is a metric for adequacy, and generating resource availability is a potential metric for reliability, Eckman stated. An example would be the availability of the federal hydro system to produce power, he said. This is a measure of historic resource availability, and we are going to see if we can get this information for the region's thermal fleet as well, Eckman added. We looked at using transmission outages per year as a reliability metric, but we are not sure it would be that informative, he commented.

What's the problem with using generating capacity? Yost asked. We use that to measure adequacy, but we are looking for a metric for reliability, replied Eckman. We are "on the hunt" for one, but it doesn't seem like we are making progress yet, he said.

Why don't you go visit with the utilities and ask them how old their transmission lines and generators are, and you could get an idea of what's old and what might break, suggested Yost. By looking at the age of the infrastructure, you might be able to determine if there is more risk in particular areas, he stated. That's a good idea, said Karier. This infrastructure need also shows up in costs; for example, did we make a lot of investments 30 years ago, and is the need now coming up for a round of new investments, he stated.

Karier suggested adding a HLI for the cost of carbon emissions per megawatt-hour and looking at the tons of carbon per MWh emitted in the Northwest, compared to the rest of the country. This will show how low our emissions are in the Northwest and will help us track reductions per MWh as the years go by, he said.

Dick Adams has suggested using generating system efficiency over time as a metric, said Eckman. We haven't been able to get a good set of data on that yet, but we think it would be useful and we hope to get the data as part of the comments on this paper, he stated. When we send out the paper, let's highlight the reliability issue and encourage feedback on it, Smith recommended.

During its regular meeting, the Council approved release of the draft environmental methodology issue paper, as well as the HLI paper. Before the vote on the HLI paper, Yost said he would support its release, but that he thinks the paper has "lots of problems"

and will need a lot of changes after the comments are received. The deadline to comment on both papers is October 31.

Adequacy and the Sixth Plan

Staffer John Fazio made a presentation to the Power Committee about the discrepancy between the 2019 resource adequacy assessment and the Sixth plan's resource strategy. Assumptions about the amount of power imports available from California turned out to be the key factor in the discrepancy, he said. This comparison highlights a key policy question the Seventh Plan will need to address, which is how much the region should rely on imports from outside the region, Fazio stated. The Council's Resource Adequacy Advisory Committee will be discussing this further, he said.

This analysis shows the Council needs to look more at reliability and the risks involved in making an assumption on imports that we in the Northwest don't have any control over, Yost stated. Imports are a key variable, and utilities all have different assessments on the amount of imports they expect to rely on, said Karier. We'll have to bring in those experts and explore this further, he added.



What's the Scoop on the SCED?

Michelle Manary of BPA told the Council the Northwest Power Pool Members' Market Assessment and Coordination Committee, a collaboration of 19 public and investor-owned utilities, is considering the design of a within-hour energy-only market called Security Constrained Economic Dispatch (SCED). We call it SCED, rather than an Energy Imbalance Market (EIM), because it would deal with more than just imbalance, she noted.

The SCED is an intra-hour redispatch mechanism to economically optimize generation resources that have been voluntarily offered, or committed, ahead of the operating hour, Manary explained. A SCED would determine the least costly means of obtaining energy to serve the next increment of load at each settlement location within the market footprint, while maintaining reliability, she said. Resources may either be made "available" for market dispatch, or "self-dispatched," Manary stated.

Dispatch would be regional and calculated using a security constrained offer-based economic dispatch every five minutes, she said. Security constrained means dispatch outcomes are constrained within actual real-time physical limits on generation and transmission, Manary added.

The SCED is not a Regional Transmission Organization (RTO), an organized capacity market, or a replacement for the current contractual business structure, she noted. Having the SCED could mean load-serving entities could reduce their cost of meeting load, generators could retain scheduled revenues and reduce production costs and/or increase revenues, and balancing areas could improve system reliability, Manary continued.

We are now in phase 3 of a five-phase effort to develop the SCED, she said. In this phase, which will last into next year, we are focusing on building tools that will allow operators a common way to look across the region, Manary told the Council. We are also engaging with the Federal Energy Regulatory Commission (FERC) to see if we can get a declaratory order that will give non-jurisdictional utilities comfort in going forward with the SCED, she said. Our target is for the SCED to go live October 17, Manary added.

BPA is doing its own assessment of the SCED, to see if it pencils out for us and what effects it would have on our products, services, and rates, she noted. The Northwest Power Pool will hold a public meeting on the SCED September 18, and BPA will hold a public meeting September 29, Manary said.

No matter what happens with the SCED, a number of important regional changes are taking place October 1 of this year, she reported. These include BPA's implementation of 15-minute scheduling, launch of the California Independent System Operator (CAISO)-PacifiCorp EIM, and CAISO expanding its modeling to the whole Western Electricity Coordinating Council region, Manary added.

Q&A

So a participant can decide how much energy to put into play and can bracket it with a particular price? Yost asked, and Manary replied yes. How do you handle reserves? Yost asked. You still have to bring contingency reserves to the table – this is mostly looking at imbalance, Manary said. Yost asked about the role of wind. If you were to use wind to serve load, you would have to pass the load sufficiency test, replied Manary.

What's the timeline for a FERC decision? Smith asked. We hope we can get it before we start phase 4, replied Manary. How is it possible to operate in a world with five-minute intervals? Phil Rockefeller asked, adding that "human beings can't do that." It is highly automated, and we are developing the systems to be used as part of phase 3, Manary replied.

Would it be more attractive to join the CAISO EIM? Rockefeller asked. One of the beauties of the regional SCED is that it enables the Northwest to be in control of its own destiny,

replied Manary. We would retain control in the Northwest, but the market operator could be anyone; in fact, when we solicit for that function, we expect the CAISO to bid and possibly become the SCED operator, she said. It would then use different rules in California and different rules in the Northwest, Manary added.

What's the time frame for joining the CAISO? Smith asked. The next time you can participate in the CAISO is October 2016, Manary replied. We think if an entity decides to participate in phase 4 of the SCED, it is quite likely they will stay in for phase 5, she noted. It would be nice to have everyone in the region participate, but that doesn't have to happen in order for the SCED to go forward, Manary stated.

Utilities historically have been protective of their information about operations and other things, and the SCED could be "a culture shock," said Yost. How do you overcome that? he asked. You don't completely overcome it, but there is some comfort in the understanding we are only talking about within one hour, Manary replied. Also, participants can see a quid pro quo, in that the market will give them more information, she said. Some people say if we can get better information, we can make better decisions because we know more about what's going on with the system, Manary added.

When do participants decide if they are in or not? Karier asked. This spring, utilities will decide if they want to fund phase 4, Manary replied. BPA is aiming to decide in March or April, but that will depend on FERC and the public utilities too, she said.

Will there be additional oversight from FERC or the utility commissions for SCED participants? Yost asked. IOUs already have FERC oversight, but it is the publics that are

non-jurisdictional and are worried about FERC “coming in the back door,” Manary replied. We are talking about provisions for an “out” for participants, depending on what FERC decides to do, she said.

Another concern involves the fact the Northwest is so hydro-dependent, Manary noted. We want to make sure the market operator understands how the hydro system works, she said. And there needs to be an understanding at FERC that we can’t operate like Eastern utilities do, Manary added.

Does BPA anticipate making its power system available, and if so, how does it do that, given its constraints, such as for fish and flows? Karier asked. In the spring and other times, we are constrained so we would do self-dispatch and tell the market operator “hands off,” replied Manary. But there are a lot of hours that we could make available so there is some flexibility, she said.



F&W Program Coming Down the Home Stretch

The Council carried out a two-day, page-by-page review of its draft 2014 F&W program, making editorial and substantive revisions throughout the document. Matt Wynne of the Spokane Tribe, who also chairs the Upper Columbia United Tribes, thanked the Council for including some of the language they recommended about the reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams in the document.

We reviewed the comments submitted by BPA and other power interests that said it would be better to wait until renegotiation of the Columbia River Treaty (CRT) is finished before starting work on reintroduction, he said. The U.S. Fish and Wildlife said in response to that “we don’t believe

reintroduction should rise or fall on the reconsideration of the CRT,” and the Spokanes strongly agree with that statement, Wynne stated.

He recommended more specific language that says BPA will fund the research for all phases of the reintroduction effort. We urge BPA to provide funding to repair what was the biggest effect of hydro system construction, the complete loss of salmon, Wynne said. It has been 75 years since we had salmon, he noted. BPA must fund these studies, and we need to do it now, Wynne said.

RiverPartners: Manage It, Don’t Grow It

Terry Flores of Northwest RiverPartners told the Council that her organization’s members care about salmon restoration and about the cost-effectiveness of the measures in the F&W program. She announced the “good news” that as of Monday, a new record was set when 67,521 adult fall chinook were counted at Bonneville Dam. This shows the region is on the right track and that we need to let the Biological Opinion (BiOp) work, Flores said. Now is not the time to grow the F&W program, she added.

The Council’s 2014 report to the governors on BPA’s F&W costs points out that 25 percent of BPA’s spending is for F&W and that about one-third of BPA’s wholesale power rate goes for F&W costs, Flores said. So we were disappointed to see areas in the draft program that would expand activities and result in additional costs, without any reductions in spending to offset those costs, she stated.

One area that particularly concerns us, Flores said, relates to spending associated with the reintroduction of salmon above Grand Coulee and Chief Joseph dams. The CRT discussions have envisioned a reconnaissance-level investigation of reintroduction that would be conducted with Canada and have a sharing of

costs, she stated. The Council should support that and not move forward with this on your own, Flores said.

Toxics are another concern, she stated. The draft program has a section on toxics that expands activities beyond hydro system mitigation responsibility, according to Flores. As for mainstem operations, we were glad to see the Council supported the BiOp, she said. BiOp operations are based on sound science; for example, the BiOp permits spill to be shut off when few fish are present, Flores noted.

She pointed out parts of the program dealing with the mainstem that need revision, for example, language calling for flow and passage measures to protect species not covered in the BiOps. Flores urged that language about Smolt-to-Adult Return (SARs) goals be stricken from the program because it doesn't provide practical management metrics. The hydro system alone can't achieve those goals, but it is often held responsible for achieving them, she stated.

The program has broad language directing BPA to provide funding for all types of coded wire tags, Flores noted. We recommend funding the tags only where there is clear nexus to hydro system mitigation, she said. Flores also called out program priorities like "mapping and determining hotspots for toxic contaminants" as inappropriate for BPA funding.

This is a massive program, probably the biggest in the world, she said. You should try to identify savings and manage the program, not grow it, Flores urged. The Council needs to be an honest broker that sorts through all the recommendations and finds out which are the best priorities and makes sure the region does the right things, not all things, she concluded.

During the walk-through of the document, some of the topic areas that attracted discussion are summarized below. Staffer Tony Grover mentioned that many comments were received on the section called "program successes." The Council approved two BPA-recommended additions, one noting significantly improved salmon and steelhead survival at the federal dams, and one citing "increased flows that improve fish production, migration, and survival." I am glad we have this section in the report, said Bill Booth. I hope we will highlight this information so people understand the Council has made progress, he stated.

The Council discussed new language on measures to address toxic contaminants, but deleted a specific call for a study of whether reservoir operations contribute to mercury methylation, which can affect the reproductive health of fish. Having a study is okay, but we aren't going to change the way we operate reservoirs because of this, Yost stated. This section is presumptive on sources and causes of potential problems and should be toned down, said Booth. If our program produces contaminated fish that people can't eat, what do we do then? Karier asked. We can't just produce contaminated fish and say we have mitigated for the hydro system, he added.

We received a lot of comments that said the Council should take more of a leadership role on climate change, said staffer Jim Ruff. I don't know that the Council should develop an overarching climate change strategy for the basin, said Booth. The Council is uniquely situated to look at climate change from the standpoint of hydropower and anadromous fish, and come to a better understanding of this problem, said Chair Bill Bradbury. The Council inserted language saying it would convene one or more science-policy

workshops on climate change effects in the basin to inform an overarching strategy.

Grover pointed out that the investment strategy in the program has seven priorities and that the program says new project solicitations should take those priorities into account. Jennifer Anders asked if staff had made an effort to find elements of the program that no longer need funding and could be eliminated. Staffer Lynn Palensky replied that the implementation section of the program says the Council will work with BPA and project sponsors to develop appropriate end dates or review schedules for currently funded projects.

Grover explained new language that says funding for invasive species prevention and toxics reductions at hydro facilities should come from the budgets of the Corps and Bureau of Reclamation, not the F&W program. The F&W managers are worried the dam operators might use F&W program funding for hydropower maintenance issues, he said.

Staff will incorporate the changes made at this meeting and circulate a new draft to Council members for review before the October meeting, where the document will be up for a final approval vote, staffer Patty O'Toole said. She noted the "ex parte" period, during which Council members and staff can have no outside communications about the F&W program, would start at the end of the September meeting.

BPA and Idaho Reach \$40 Million Wildlife Settlement



Jeff Gould of the Idaho Dept. of Fish and Game (IDFG) and Lorri Bodi of BPA made a presentation on the proposed 10-year \$40 million Southern Idaho Wildlife Mitigation

settlement between BPA and Idaho. It took a lot of collaboration and the development of novel solutions and was "many years in the making," said Booth. This settlement is very positive for Idaho and for ratepayers, he added.

Gould said the agreement resolves half of the wildlife mitigation associated with the construction, inundation, and operational impacts from Black Canyon, Anderson Ranch, Palisades, and Minidoka dams in southern Idaho. The agreement covers half the estimated operational impacts on F&W habitat from Deadwood Dam, he noted.

The agreement has three funds, totaling \$40 million, and that includes \$22 million for new acquisitions, a \$14 million stewardship fund, and \$400,000 a year for 10 years for administration, Gould reported. BPA and IDFG are finalizing the agreement and conducting outreach to share the agreement with the tribes, federal action agencies, and BPA customers, he said.

End Notes

Contracts for Power Plan Elves. The Council approved three contracts to assist with work on the Seventh Power Plan. One is with Jeff King to help staff assess and characterize generating resources and technologies, for up to \$32,000. The other two contracts are with Michael Schilmoeller for up to \$50,000, and Doug Logan, up to \$25,000, to help in the redevelopment of the Regional Portfolio Model

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