

**Bill Bradbury**  
Chair  
Oregon

**Henry Lorenzen**  
Oregon

**W. Bill Booth**  
Idaho

**James A. Yost**  
Idaho



## **Northwest Power and Conservation Council**

**Jennifer Anders**  
Vice Chair  
Montana

**Pat Smith**  
Montana

**Tom Karier**  
Washington

**Phil Rockefeller**  
Washington

### **Council Meeting Portland Oregon**

**December 9-10, 2014**

### **Minutes**

Council Chair Bill Bradbury called the meeting to order at 1:32 p.m. December 9 and adjourned it at 10:36 a.m. December 10. All members were present; Jim Yost and Vice-Chair Jennifer Anders participated by telephone.

#### **Reports from Fish and Wildlife, Power and Public Affairs committee chairs:**

Phil Rockefeller, chair, fish and wildlife committee; Jim Yost, chair, power committee; and Henry Lorenzen, chair, public affairs committee.

Phil Rockefeller reported that the Fish and Wildlife (F&W) Committee was briefed on a recent trip staff members made to Washington, D.C. The trip was successful, and we learned that the Council's outreach work with Congressional staff has paid off, he said. We also talked about developing a long-term funding strategy for operations and maintenance (O&M) investments made by BPA in support of the Council's F&W program, Rockefeller stated. The Council is concerned that facilities are aging and need upgrading or replacement, but there is no long-term strategy in place for financing those needs, he said. And there is no inventory of those investments or information on whose responsibility it is to pay for such investments, Rockefeller noted. The Council plans to be the catalyst to begin a process to gather that information from states, agencies, tribes, and others in the region, he added.

Bruce Suzumoto of NOAA Fisheries gave a presentation on NOAA's regional assessment of goals and measures associated with salmon recovery, Rockefeller reported. NOAA wants to get baseline information on where we are now and what strategies we can agree on at the regional level, he explained. NOAA is asking the Council to join with them to find a way to do this and to avoid duplicative efforts, Rockefeller said.

The Committee reviewed priorities for the F&W work plan and staff assignments, but didn't come to agreement on them yet, he noted. Staff will take the results of the discussion and bring back a new proposal to the committee, Rockefeller said. We also discussed work related to the feasibility of salmon reintroduction above Chief Joseph and Grand Coulee dams, he noted. We heard about what the Upper Columbia United Tribes are doing, and we think the Council should assist in helping develop a timetable and process for this work, but not take the lead, Rockefeller said.

Pat Smith reported the Power Committee discussed five items, with the first being the 20-year load forecast for the draft power plan. The forecast is for moderate growth between half of 1 percent to 1 percent, and we noted that the summer peak is now approaching the winter peak, he said.

The Committee talked about ways to better incorporate capacity, flexibility, and balancing into our Regional Portfolio Model (RPM) and energy planning, Smith stated. We have heard a lot from the region about this, and I know it is a big issue with PNUCC, he said. Staff plans to prepare a memo and send it out to get comment from the region on the approach we are proposing to use, Smith added. With capacity, we are trying to figure out planning reserve margins, and for flexibility, staff is working on operating reserves to determine what they are and how to deal with the issue, he said. Staff will send the memo out to the region, and we expect to have input back in the next couple of months, Smith told his colleagues.

The Committee discussed the report on the Regional Technical Forum (RTF) investigation into the monetization of health effects directly attributable to energy efficiency programs, he continued. It is clear the benefits are substantial, but there isn't a consensus on the next steps, Smith said. There is concern about our trying to quantify the environmental benefits as that could exceed our budget and "get us in over our heads," he added.

The Committee received an update on the RPM model redevelopment project, and we heard that all is going well, Smith said. There are two proposed enhancements to this effort that you will be asked to vote on tomorrow, he noted. The Committee also discussed the methodology for quantifying environmental costs and benefits for the draft power plan, Smith said.

Henry Lorenzen reported that the Public Affairs Committee did not meet this month, but plans to meet early in 2015. Our Public Affairs Division has released the second edition of our Power Plan newsletter, he noted. We are using the Web more extensively to keep the public informed about development of the plan, Lorenzen added.

#### **1. Report on results of regional hydro potential study,**

Gillian Charles, energy policy analyst; and Peter Paquet, manager, wildlife and resident fish.

Staffer Gillian Charles presented the results of a regional hydropower scoping study performed for the Council by the Northwest Hydroelectric Association (NWhA). The objective, she said, was to gain a better understanding of the potential for new hydropower development in the Northwest and the costs associated with it, as well as to review other recent studies that identified large amounts of hydropower potential in the region. We wanted to dig into those studies and see what the potential really is, Charles stated. The Council's last major assessment of hydropower potential took place during development of the Fourth Power Plan in 1994, she noted.

The Department of Energy (DOE) released a study done by Oak Ridge National Laboratory this year that found 84.7 gigawatts (GW) of undeveloped hydropower capacity in the United States, Charles reported. The Northwest was said to have the highest potential, about 25 GW, she stated. Of the 25 GW, 16 GW of potential was for projects greater than 1 MW in undeveloped stream reaches and 9 GW was for projects of less than 1 MW in undeveloped stream reaches, Charles noted. Existing Northwest hydropower capacity totals about 33 GW, she added.

Staffer Peter Paquet explained the Council's protected areas program, adopted in 1987. Protected areas are designated streams and wildlife habitats that are protected from hydroelectric development based on their fish and wildlife (F&W) values, he said. The Council endorsed the protected areas policy in the F&W program it adopted in October and reinstated an exemption process that allows petitioners to demonstrate the exceptional benefits to F&W of a potential project in a protected area, Paquet noted.

The NWhA reviewed 24 studies, including those of projects at existing unpowered dams, conduit and kinetic projects, pumped storage, and tidal and wave energy, Charles said. The contractor surveyed utilities and developers to assess pending projects, reviewed Federal Energy Regulatory Commission applications, and provided a map overlay between the 2014 DOE study and the Council's protected areas, she stated. The contractor found that the criteria used to develop each study varied a lot and that a supply curve cannot be constructed without further analysis, Charles reported.

The NWhA study found that only 12 percent of the potential hydropower in the Northwest identified in the DOE study was not in protected areas, she told the Council. That finding shows the importance of including the protected areas in studies about hydropower in the Northwest, Charles added.

Based on site-specific locations, projects in the licensing process, and utility commitments, the contractor found the "realistic, reasonable" new hydropower potential in the Northwest between now and 2035 to be about 3,239 MW, including 2,640 MW of pumped storage, she reported. None of the potential identified in the DOE study was included in the NWhA estimate because it is not site-specific and requires further analysis, Charles added.

The Council asked a number of questions about pumped storage, its output, cost, and feasibility. Pumped storage still has a long way to go, Charles said. She noted that the next Generating Resources Advisory Committee (GRAC) plans a discussion of pumped

storage projects and their costs. Booth pointed out that the list of new pumped storage projects the contractor identified includes Banks Lake, but, he said, that project has been around a long time. This would be an upgrade, responded Charles. But they have found that project doesn't pencil out now, stated Booth. Charles said BPA will give a presentation on the Banks Lake project at the next GRAC meeting, and that there will be a presentation about a pumped storage project at John Day Dam.

Staff is proposing to analyze hydropower as a secondary resource for the draft Seventh Power Plan, she stated. There does not appear to be enough potential for including it in the RPM, Charles added. We do want to analyze pumped storage potential in more detail because one of our study's big takeaways is that there are lots of questions about it, she said.

Since these results show the hydropower potential to be so small, why not take this research and call it good? Booth asked. We aren't suggesting spending too much more time, except for the work on pumped storage, but it's up to you, Charles told the Council. Pumped storage and secondary resources that can respond quickly will be critical to back up resources like solar, and we should look at them more, Lorenzen stated. I agree, Karier said, noting that California is doing a lot with storage development and the Council needs more information on that.

## **2. Discussion and guidance to staff on the methodology for quantifying environmental costs and benefits for the draft power plan:**

John Shurts, general counsel; Tom Eckman, director, power division; and Gillian Charles.

The environmental costs and benefits methodology used to determine the cost of resources is a key piece of the Council's power plan, staffer John Shurts told the Council. The Northwest Power Act requires the Council to have such a methodology, and staff is looking for guidance on the methodology so it can begin putting together resource costs and drafting language for the Draft Seventh Power Plan, he explained.

The Council released an environmental methodology issue paper in September and received a number of comments, Shurts said. Staff now has a set of recommendations on how to handle issues related to the methodology, he said, adding that the Power Committee gave its okay to the staff recommendations.

Shurts pointed out that staff separated the issues between those related to new resources and those related to the existing power system. There are 11 issues we want to cover, he added.

Beginning with an issue related to compliance with existing environmental regulations, such as air and water quality, Shurts explained that these are actual costs borne by resource developers. We can include these in the Regional Portfolio Model (RPM) to analyze them, he said. That's what we have done in the past and it is something staff will do again, Shurts stated.

He went on to explain there are resources, particularly new coal plants, for which “the hurdles are high enough” that we don’t propose to include them in the model, he said. Because of state laws, these are not resources likely to be selected by developers or by the model, and our recommendation is not to get into detail on their environmental costs, Shurts said, adding that new coal can be addressed as part of the plan’s narrative.

A second issue is the cost of compliance with proposed regulations, Shurts continued. We know there are regulations that are likely to go into effect, such as the Environmental Protection Agency’s Section 111b proposal with regard to carbon emissions for new power plants, he said. The proposed EPA regulation for new resources is supposed to be final in January 2015, Shurts told the Council. Staff proposes we assume compliance with 111b, he stated.

The third category of costs is “conceptual” and addresses the residual environmental effects of resources once the regulations are met, Shurts said. It is way too difficult to quantify these effects because in most cases, the information on which to base the costs isn’t available, he explained, adding that with no information in some areas, it could “end up skewing the resource comparison.” As a general rule, we recommend not trying to quantify the residual environmental effects, Shurts stated.

Staffer Tom Eckman said there is growing information about the costs and said that the risk of residual environmental effects would be acknowledged in the narrative of the power plan. Shurts added that staff proposes to address residual and unregulated environmental effects that are difficult to quantify with scenario analysis.

The tribes are concerned about the cumulative effects of renewable resources on fish and wildlife and wanted the Council to address this in its F&W program, he continued. That is not the appropriate place to consider the issue, and we promised to consider it in developing the power plan, Shurts explained. In our issue paper, we acknowledge the issue, and members of the Power Committee said we need to deal with it, he said, adding that Tom Karier suggested it as an issue for the Action Plan. It is something to do going forward, but not an issue to resolve now, Shurts added.

I have a hard time coming to grips with how we go about this planning process, Henry Lorenzen commented. We have a computer model that comes up with the least risk resources, but in reality, the development of some generation is directed by things other than the factors in the model, such as state Resource Portfolio Standards (RPS), he said. How does that fit within our analytical scheme? Lorenzen asked.

People will build to RPS standards and those costs are included in the RPM, Shurts replied. We do not, however, get site specific, he said. That is key to this issue, Shurts added: how much should the Council get into addressing siting issues and what meaningful things can the Council do to make sure people are making sensitive siting decisions.

He went on to the issue of environmental benefits. A number of the resources would help to avoid other activities that have environmental effects, he explained. A particular issue is wood smoke reduction that results from certain conservation measures, Shurts indicated. We will address it, but recommend staff not spend a lot of time quantifying these benefits, he said.

The Regional Technical Forum (RTF) did a report on wood smoke reduction, Shurts said. We have more information now, but not enough to quantify the benefit, he added. The staff proposal is not to try to quantify them but to highlight the benefits of choosing certain resources, he explained.

The next issue for the methodology is treatment of the existing power system, Shurts continued. The Council's decision in the power plan is aimed at the new resource mix and not whether to shut down existing resources, he said, adding that "others make those decisions." In developing a resource strategy, the Council needs to know how such decisions affect the system and its costs, Shurts said. He pointed out that a cost estimate for the existing system would include compliance, going forward, with the regulation of carbon emissions, as well as toxics, mercury, and haze. These were not in the estimates for the Sixth Power Plan and getting those costs is a big challenge, he added.

Staffer Gillian Charles noted that staff has done preliminary research on costs and has found some but not others. She also said other entities have offered to help identify those costs.

Shurts said another piece of the analysis is whether the RPM chooses a resource to run based on its operating costs. Eckman explained the concept further and noted how the RMP handles the analysis.

He also pointed out that plant owners decide whether to invest in capital upgrades, but the RPM doesn't model those investments. Some of those costs are direct costs and some are negotiated; we have no insight into what those negotiations might bring, Eckman said. He added that a calculation of replacement resources and O&M costs could be made if existing plants are retired. We could net the cost of replacement resources and the cost of retaining plants in fleet outside of the RPM analysis, Eckman explained.

The analysis isn't relevant to plants, such as Boardman, for which a retirement decision has been made, he continued; the analysis would be for plants, such as Jim Bridger, Colstrip, and Valmy that are continuing to operate. In explaining the analysis further, Eckman reiterated that the RPM would not consider the capital costs unless they influence the dispatch costs.

This and carbon emissions are key issues, Karier commented. It makes a big difference in planning for new generation whether a remaining coal plant operates over the next 20 years, he said. "It is essential to come up with the best estimate of new regulatory costs"

to get an accurate assessment of whether these plants will be on line in 20 years, Karier stated. "It is work that has to be done," he said.

This is a key issue, and the outcome is based on the assumptions you put into the model, Booth stated. "I'll be watching for assumptions grounded in fact and data," he added. We have to be fair in our assumptions, Booth said, adding that "a political agenda is driving what happens" with the existing coal plants. "It is there and in force," he stated. "Let's be fair and very even handed" as we evaluate solar, wind, and existing coal plants, Booth said. He cautioned against using assumptions that appear politically motivated. We should look at wind and solar fairly, too, and assure the subsidies they receive are fairly evaluated, Booth stated.

The results with solar have been negative, he continued. And there are huge costs associated with building gas plants to back up wind, Booth said. Isn't the cost of that gas plant an environmental cost? he asked. Let's feel make sure the assumptions are honest and fair so the results of the model are as well, Booth said.

"We want this analysis to be technical not political," Karier said. We have considered the subsidy for renewables as a cost; we have lowered the value of the resource, he explained. If we want to change that in the analysis, we need to change it across the board and "I see no reason to do that," Karier added.

Phil Rockefeller raised the issue of the coal facilities at Centralia. Eckman said Centralia will be included in the analysis as part of the existing fleet. Rockefeller pointed out that there will be costs associated with a required decommissioning plan and plant closure. That's an important consideration and those costs have to be factored into the overall costs of operation, he pointed out.

We have to understand what the costs of complying with regulations will be, and we have the issue of carbon emissions from the existing system, Shurts said. It is hard to put the compliance costs into the model, and staff proposes to deal with the issue through scenario analysis, he added. Shurts went on to explain examples of how this would be handled, and Eckman said staff needs to have a discussion with the Council and the Resource Strategy Advisory Committee to get proposals for the scenarios.

This is a very workable approach, Karier stated. We've developed the RPM to take into account uncertainty, he pointed out. We have the advantage of a new model into which we can input various costs, Karier said, adding "we need to use that feature that we have invested in." If we are trying to guide the region into how much energy efficiency is cost effective, this would be helpful and is important to incorporate, he stated.

I've assumed we'd take into account generation that is required by the RPS, Lorenzen said. Is it our role to look at whether this is wise? he asked. We can test that, Eckman responded. He said staff would present an update to the discussion by the end of February. Eckman reported that Jeff King is already working on a draft of the environmental considerations for the Seventh Power Plan.

Bradbury asked if there were members of the public who wanted to testify on the environmental methodology.

Nancy Hirsch, Northwest Energy Coalition: We consider the environmental methodology “a foundational issue” for the Seventh Power Plan. We consider the staff proposal a conservative approach, and we encourage the Council to look more broadly at analysis available across the country on risks and costs of resources. We’d like the Council to dig into this and use the analytical skills of the staff to develop more robust cost numbers. In particular, we think a broad spectrum of environmental impacts should be factored into the methodology. The carbon price was a proxy for other things in the Sixth Power Plan, but going forward, the methodology needs to have specific costs and not rely on a carbon price for all of the environmental impacts.

Staff is not proposing to quantify the residual environmental effects of resources, but there is a lot of analysis being done across the country on this issue. It is challenging, but we encourage the Council to dig into the analyses and include them in the methodology rather than only addressing this in the narrative. With regard to existing resources, we agree that doing an interesting mix of scenarios is important. But there is a reference case that is the foundation for the scenarios, and the reference case needs to include specific costs of both new and existing environmental regulations. We encourage the Council to include these costs in the reference case.

Shauna McReynolds, PNUCC: The Council’s Power Plan is an excellent vehicle for describing the state of the region’s power system and the challenges power providers have to deal with. What you are discussing sets the stage for that conversation. You are asking questions about what you will get out of the computer model, and it is good that you are having that discussion now.

We support the scenario analysis, and the comments directed at being fair to all resources are good. Communicating about what is in the Seventh Power Plan narrative and what is in the numbers is also important. Policy and not economics will drive what happens with the coal plants, and we are hoping for a good analysis of what it will take to replace those resources; how aggressive conservation will have to be; how much more gas and wind are needed to maintain system flexibility and meet peak loads; how solar will play into the picture; and what this means while load growth is flat. We appreciate you teeing up these questions.

Bradbury asked if the Council approved of the staff recommendations regarding the environmental methodology. The Council gave a head nod of approval and Bradbury confirmed that Yost and Anders were also in agreement. He also asked if staff has enough direction to proceed, and the staff members answered yes.

### **3. Council Business**

#### **– Approval of a contract to develop a strategic technology plan**

Staffer Sharon Ossmann explained the RFP process to develop a strategic technology plan. She said there were three finalists and this is the recommendation. Ossmann said



ACME indicated this week that a key person in ACME's RFP would not be available to do on-the-ground work. ACME will propose another individual, and contracting will not move forward until the Council is satisfied with the replacement.

Rockefeller made a motion that the Council direct the staff to negotiate a contract with ACME Business Consulting to develop a strategic technology plan as described by staff, in an amount not to exceed \$49,000. Karier seconded the motion, which passed unanimously.

– **Approval of RPM Redevelopment Project Contract Amendment**

Staffer Ben Kujala explained that in the RPM redevelopment, staff came up with tasks that weren't in the original contract with Navigant. One is to cut down the time to run the model and a second is to get better coordination between the Genesys model and the RPM, he said. Kujala said there were also some extra funds to cover other incremental improvements to the model if necessary. This would amend the original \$300,000 contract, he added.

Booth made a motion that the Council agree with the proposal presented by staff to amend the resource portfolio model redevelopment contract with Navigant to supplement the capability of the redeveloped RPM as described by staff, in an amount not to exceed \$120,000. Karier seconded the motion, which passed unanimously.

– **Approval of minutes**

Booth made a motion that the Council approve for the signature of the Vice-Chair the minutes of the November 4-5 Council meeting held in Portland, Oregon. Rockefeller seconded the motion, which passed unanimously.

Approved January \_\_\_\_, 2015

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Vice Chair

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