

PNWCC REPORT Council



Northwest Power and Conservation Council December 12, 2014

The Council, meeting in Portland, gave a head nod to staff recommendations for an environmental methodology to guide the analysis of resource costs in the Seventh Power Plan. Staff reported a new Council-sponsored study found much less new hydropower potential in the Northwest than did a recent Department of Energy analysis. Next Meeting: January 13-14 in Portland, Oregon.

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The Agenda

Staff Fills Council Stocking With Methodology

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. Staff is looking for guidance on the methodology so we can begin putting together resource costs and drafting language for the draft Seventh Power Plan, he explained.

In its recommendation, staff separated the issues between those related to new resources and those related to the existing power system, Shurts pointed out. Beginning with issues related to new resources, he explained the staff



proposal with regard to multiple environmental issues, such as complying with existing and new regulations.

Shurts noted the difficulty in some cases of developing accurate cost estimates that can be analyzed in the Regional Portfolio Model (RPM). In some instances, staff recommends addressing the costs with scenario analyses, rather than attempting to include cost estimates in the RPM, he said.

In explaining the cost of compliance, Shurts noted proposed regulations that are likely to go into effect, such as the Environmental Protection Agency's Section 111(b) proposal regarding carbon emissions for new power plants. The EPA regulation for new resources is supposed to be final in January 2015, and staff recommends that we assume compliance with Section 111(b), he stated.

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 Renewable 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.

In explaining issues related to environmental benefits, he said a key example is the wood smoke reduction that results from certain conservation measures. The Regional Technical Forum did a report on wood smoke reduction, and we have more information now than we had before, but not enough to quantify the benefit, Shurts said.

If you install some of these conservation measures, there is a reduction in wood smoke, and one might be able to quantify the health benefits by spending a lot of resources on it, he went on to explain. The staff proposal is not to try to quantify the benefits, but to highlight them with regard to choosing certain resources, Shurts stated.

The next issue for the methodology is treatment of the existing power system, he continued. The Council’s decision in the power plan is aimed at the new resource mix and not whether to shut down existing resources, Shurts said, adding that “others make those decisions.” In developing a resource strategy, the Council needs to know how such closure decisions affect the system and what they cost, he explained. A cost estimate for the existing system would include complying with regulations for carbon emissions, as well as toxics, mercury, and haze, Shurts said. These estimates were not part of the Sixth Power Plan

and pinpointing the costs is a big challenge, he added.

Carbon emissions are a key issue, Tom Karier commented. It makes a big difference in planning for new generation whether an existing 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, Bill 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 existing coal plants. “It is there and in force,” he said. Booth cautioned against using assumptions that appear politically motivated. We should look at wind and solar fairly and assure the subsidies they receive are fairly evaluated, he stated.

Phil Rockefeller raised the issue of the coal facilities at Centralia. Staffer Tom Eckman said Centralia will be included in the analysis as part of the existing fleet. There will be costs associated with a required decommissioning plan and plant closure, Rockefeller pointed out. That’s an important consideration and those costs have to be factored into the overall costs of operation, 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. Staff will present an update to this discussion by the end of February, he said. Consultant Jeff King is already working on a draft of the environmental considerations for the Seventh Power Plan, Eckman reported.

Council chair Bill Bradbury asked if the Council approved of the staff recommendations regarding the environmental methodology, and Council members gave a head nod of approval.

Members of the public were given an opportunity to testify on the environmental methodology. **Shauna McReynolds of PNUCC** said 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. We support the scenario analysis, and the comments directed at "being fair to all resources" are good, she said. 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 if load growth is flat, McReynolds stated.

Nancy Hirsch of the Northwest Energy Coalition told the Council NWEC considers the staff proposal a conservative approach and encouraged a broader look at the 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, she said. In particular, we think a broad spectrum of environmental impacts should be factored into the methodology, Hirsch stated.



Not So Much New Hydro Under the Tree

Staffer Gillian Charles presented the results of a regional hydropower scoping study performed for the Council by the Northwest Hydroelectric Association (NWEHA). 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 NWEHA 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 NHTA 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 NHTA 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.

End Notes

Care to Comment on Capacity? Pat Smith, chair of the Power Committee, reported the Council is looking for ways to better incorporate capacity, flexibility, and balancing into the RPM and its energy planning. We have heard a lot from the region about this, and I know it is a big issue with PNUCC, he said. 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 best to deal with the issue, Smith noted. Staff will send out a memo on the approach we propose to use, and we expect to have input back from the region in the next couple of months, he said.

Money Matters. The Council agreed to add \$120,000 to the \$300,000 contract with Navigant Consulting for additional tasks related to redeveloping the RPM. In addition, the Council approved a \$49,000 contract with ACME Business Consulting to develop a strategic technology plan.

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