

PNWCC REPORT Council



Northwest Power and Conservation Council November 4-5, 2014

The Council, meeting in Portland, asked staff to prepare a briefing on what value the Power Plan is to the region and who uses what parts of the plan for what purposes. Council members again swapped thoughts on how the Seventh Power Plan should treat carbon. Next Meeting: December 9-10 in Portland, Oregon.

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The Agenda

Goldilocks Meets the Power Plan



Staffer Tom Eckman gave a presentation on the Council’s approach to resource planning, focusing on how uncertainties such as electricity demand, resource costs, and risks are addressed. This is another in a series of briefings to provide background as the Council gets ready to develop its Seventh Power Plan, he said.

Eckman called the resource planner’s problem “a Goldilocks problem.” The planner tries to find the right mix of resources – not too many, not too few, but “just right,” he said. Eckman recounted the region’s costly experience with overbuilding of resources in the past and also described a situation in the mid-1990s when the region was short on resources and prices went up. Overexposure to the market can be expensive and painful as well, he noted.

The Power Plan must address load, resource, and wholesale electricity market price uncertainties, Eckman stated. Load uncertainty is particularly challenging in planning for large generating resources with long lead times, but today, we also have conservation and smaller generating resources with shorter lead times, he said. Our approach assumes a lack of perfect foresight, and so we use a “range” for our load forecast, Eckman noted.

He explained how the plan addresses resource uncertainty, including outages and variability, as with streamflows. Eckman said it is tricky to predict natural gas prices and pointed out that the Council uses a portfolio approach to address resource uncertainties.

Delays in deployment can be a source of uncertainty with energy efficiency, he noted. But this uncertainty appears to be diminishing, as the region’s conservation achievements have exceeded Council targets in the years following the West Coast energy crisis, Eckman said.

Harry Potter and Forrest Gump

The Power Act says the Council's plan should select the lowest cost resources first, and prudence says the plan should also focus on the lowest-risk resources, he stated. The plan uses a scenario approach which combines resource strategies and futures, Eckman said. He described what the Regional Portfolio Model (RPM) does, calling it "a big sophisticated sorting hat," as was featured in the Harry Potter movies.

The Council follows the "Forrest Gump" resource philosophy; that is, "the future's like a box of chocolates, and you never know what you are going to get," Eckman continued. The RPM "tests a lot of chocolates" to find out how sensitive resource strategies are to assumptions about future carbon risk and prices, and what strategies provide the greatest "hedge" against electricity and gas price uncertainty, he explained.

How do you determine what is needed in the way of capacity? Henry Lorenzen asked. We are trying to get the RPM and Genesys models talking more about that particular problem, replied Eckman.

We are having a hard time explaining our approach to the cost-effectiveness of conservation to utilities, said Tom Karier. If you look at cost-effective conservation, it's different with each utility, stated Jim Yost. For some, no conservation is cost-effective – they don't need it and they can't afford it – and these are the things the computer can't tell us, he said.

We have heard from utilities about how they calculate cost-effectiveness, but the situation can look different if you include the perspective of the customer, who saves money as a result of conservation, said Karier. Maybe we need to include the customer perspective in the calculation of cost-effectiveness, he added.

At some utilities, there are customers who have other needs and desires, stated Yost. The models are useful, but it will take the group of us as a Council to see that we do no harm to individual utilities and get the best plan for the region, he said. If we don't, the plan will be irrelevant to the

region and not useful for customers or utilities, Yost added.

It appears that prior to 2000, there was under deployment of energy efficiency, said Pat Smith. What was going on? he asked. After the West Coast energy crisis, there was a new realization that energy efficiency is a hedge against such events, and since then, efficiency has become a material resource while before that, it was on the edges, Eckman replied.

What is the relevance of our plan to the utilities in the region? How much do they look to it or rely on the RPM? Smith asked. We see a lot of use of the data and analytics behind the plan, replied Eckman. The most valuable aspects are the findings from the model's analysis, and utilities can pick and choose what fits them, he added.

The plan has value as a good analysis and a "think tank" effort, and people in the region do use the plan's conservation goal, stated Bill Booth. I would like to request that staff give us a briefing on the value of the plan, who really uses it, what parts they use, and for what, he said. I would like to know the things we provide that no one else provides, Booth stated. We can do that, responded Eckman. I won't promise it by Christmas, but after, he added.

One indicator of the value of the plan is the Resource Strategies Advisory Committee meeting I recently attended, said Lorenzen. It attracted a large group of high-level utility executives in the region, and that shows they are taking an interest in what we are doing, he stated. "Otherwise, they'd just be blowing us off," Lorenzen added.

There's a lot of anecdotal evidence you hear about the plan's use and value, said Karier. The Council's work is referenced in hearings held in the states, and reports tracking BPA's conservation acquisitions are always shown along with the Council's conservation target, he noted. Our plan is trying to recommend an investment strategy for the region that will provide reasonable prices and risks if the region as a whole follows it, Karier said.



Carbon Counts, But How?

Staffer John Shurts reported the Council received 23 comments on its draft issue paper, *Methodology for Determining Quantifiable Environmental Costs and Benefits*,” issued in September. The environmental costs and benefits methodology is a key piece of the power plan, he noted.

We received “an excellent set of comments,” and I urge you to read them, Shurts said, pointing out all the comments are posted on the Council’s website. At the December meeting, we hope to get direction from you on the methodology to use in developing the draft plan and resource cost estimates, he told the Council.

There were differences of opinions in the comments about how the Council should handle quantifying carbon dioxide emissions costs, but nearly all agreed scenario analyses would be a key part of the power plan effort, especially with regard to emissions from the existing system, Shurts reported. These analyses could evaluate the effects of different percentage reductions in carbon emissions and compare a regional versus a state-by-state approach to complying with Section 111(d) rules, he added. Some commenters urged the Council to use the same approach to carbon that was in the Sixth Plan, and others were concerned that whatever approach is used, the Council not ignore cross-sector issues with transportation emissions, Shurts said.

In the last plan, we put in a dollar amount for carbon as a risk factor, but I don’t think that’s how we should do it now, stated Yost. There wasn’t a strong reaction against what we did in the Sixth Plan, said Karier. We used a range, and it seemed reasonable to a lot of people, he added. Last time, we anchored our estimate to pending legislation, but since we don’t have such legislation now, staff will need to consider the best approach; for example, we could look at mitigation costs of carbon and work up a supply curve of CO₂ reduction, Karier said.

You could calculate carbon reductions that would result from the Boardman and Centralia plants being closed and replaced by wind and gas plants, suggested Yost. You could look at the life expectancy of the other coal plants in the region and consider scenarios in which they are retrofitted or mothballed and use those numbers as estimated carbon reduction for the Northwest, he stated. We could do something like that, rather than putting a price per ton for carbon in the plan, Yost said.

Lorenzen noted the possibility of a utility investing in a lower-carbon resource and then having regulators decline to put the plant in rates because its cost was too high. Investor-owned utilities have to guess what the future will be like and decide what to invest in all the time, said Karier. It’s much like what we are doing, he added. The question is if regulators will let them recover the costs in rates, Lorenzen said. Phil Rockefeller pointed out the Washington Utilities and Transportation Commission has asked Washington utilities that import power from Colstrip to re-analyze the costs of that plant in light of EPA regulations.

I attended a meeting recently where the CEO of PGE said the cost of carbon had to be factored into their decisions, noted Chair Bill Bradbury. It’s becoming more of a factor to be used in planning by utilities and in regulation, he added.

I worry about incorporating theoretical costs into planning that will be used to make real-world decisions, said Booth. British Columbia has a carbon tax, and it has not had the bad effects on the economy some people predicted, noted Karier. This is a fascinating discussion, commented Bradbury. It gives us a sense of what we’re headed for in developing the Seventh Power Plan, he said.

NWEC Says Get Smart on Transmission



Fred Heutte of the Northwest Energy Coalition (NWEC) noted the Council has been talking a lot about adequacy, reliability, and flexibility and the role of the Seventh Power Plan in keeping the

lights on. There will be more focus on reliability going forward, as well as on how climate and environmental regulations will shape the plan, he stated.

NWEC wants a power system that is reliable, clean, and affordable, Heutte said. We are pleased with how the development of the RPM is going, he added. But, as Dick Adams said yesterday at the Power Committee, you need to be clear about what the model can and cannot do, Heutte told the Council.

He recommended taking a more in-depth look at transmission plans that affect the Northwest. In the West, the Council's power plan is very authoritative, and ColumbiaGrid, the Western Electricity Coordinating Council, and others rely on the Council's plan, Heutte stated. I suggest you have some presentations from ColumbiaGrid and the Northern Tier Transmission Group and let them explain how they stress-test the system, he said. Just today, the North American Electric Reliability Corporation released a new report on EPA's proposed Section 111(d) rules and how they might affect the ability to keep the lights on, Heutte noted. It's a good time to talk more about these converging issues, he added.

BPA Touts Technology



Terry Oliver of BPA gave a presentation on BPA's R&D portfolio and its process for managing research and technology innovations. BPA has spent about \$70 million over the past seven years and put 200 projects through its portfolio, he reported. In that time, Oliver said, the benefits from two projects paid the entire bill: a transmission conductor shunt and an operational multi-gigabit Ethernet on BPA optical fiber network.

We have ramped up our R&D budget, and it is now half of one percent of our revenue, he noted. Decisions about research projects are made by a Technology Innovation Council, and each January, we have a 40-hour meeting during which the group evaluates and votes on projects, Oliver stated. We aren't insular in our evaluations, he said, pointing out that representatives of Hydro Quebec, Snohomish PUD, and EPRI have sat in on the reviews.

End Notes

High-Level Indicators Move to Back Burner.

Smith told his colleagues that at the Power Committee meeting, staff had summarized public comments received on the draft issue paper proposing High-Level Indicators (HLI) for the power system. There were two camps of commenters, he explained. Utilities said, "why do this, and why now – it's not required by the Power Act," while conservation groups and regulators said they like the HLI idea and offered suggestions, Smith reported. Given the tenor of the comments we received, the Committee decided the effort to develop HLI, which are not part of the Seventh Power Plan, should slow down, he said.