

**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**

**November 4-5, 2014**

### **Minutes**

Council Chair Bill Bradbury called the meeting to order at 1:31 pm on November 4 and adjourned it at 11:59 am on November 5<sup>th</sup>. All members were present.

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

Phil Rockefeller, chair, fish and wildlife committee; Pat Smith, chair, power committee; and Henry Lorenzen, chair, public affairs committee.

Phil Rockefeller reported that the Fish and Wildlife (F&W) Committee had a presentation on the survival and run timing of adult spring/summer chinook salmon in the lower Columbia River to Bonneville Dam. The report illuminated the effects of predation on the fish by seals and sea lions and shows that both the number of fish kills and the numbers of these predators are increasing, and that there is a need for more research, he said.

We had a presentation on the PIT tag forecaster tool for the Columbia River Basin, Rockefeller stated. One of the goals of this work is to have better ways for managers to share information and to achieve savings by developing a more effective system for deploying such tags, he said. The Committee also had a presentation on ways to derive new insights on Columbia River streamflow and fish migration through a data visualization technique, Rockefeller added.

Pat Smith reported the Power Committee had a presentation on rooftop solar installations that predicted strong growth in future years in the Northwest. We also discussed a new wholesale power price forecast, which looks quite similar to the 2013 forecast, he said. The Committee had a progress report on the Regional Technical Forum (RTF) investigation into the monetization of health effects and specifically whether the health benefits of reducing wood smoke can be monetized, Smith noted. We had a demonstration of the RPM model, he said.

Staff gave us a summary of the public comments received on the draft issue paper proposing a set of High-Level Indicators (HLI) for the power system, Smith reported. There were two camps of commenters, he explained. Utilities said, “why do this, and why now – it’s not required by the Power Act,” Smith noted. Conservation groups and regulators said they like the HLI idea and offered suggestions, he said. 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, Smith stated.

Henry Lorenzen reported the Public Affairs Committee did not meet, but he noted that the staff has begun to include articles related to the development of the Seventh Power Plan on the Council’s website.

Lorenzen reported on the latest meeting of the Resource Strategies Advisory Committee (RSAC). The meeting attracted good attendance from the utility community, he noted. The RSAC enables high-level managers and others to get a feel for what is under development in the power plan, and the committee could be a vehicle to develop an eventual buy-in to that plan, Lorenzen stated.

The RSAC discussed quantification of environmental costs and benefits in the power plan, he noted. Some asked whether our plan is “aspirational,” or whether it reflects what utilities actually will be doing with respect to developing resources, Lorenzen reported. The RSAC also talked about how to deal with carbon rules and risk in the next plan, and there were a range of positions, he said. But there is a consensus that the region would appreciate an analysis by Council staff of the impact of EPA’s proposed carbon regulations, Lorenzen noted.

## **1. Council decision on Project Review:**

Mark Fritsch, manager, project implementation.

Staffer Mark Fritsch presented two Accord projects for a Council decision.

### **– Project #2008-458-00, Steelhead Kelt Reconditioning**

The first was a steelhead kelt reconditioning project sponsored by the Yakama Nation. Fritsch described the background of the project and noted its most recent submittal to the Independent Scientific Review Panel (ISRP) had resulted in an ISRP decision that it met scientific review criteria with qualification. Matt Abrahamse of the Yakama Nation explained the history of the project, which is to enhance the abundance and life history diversity of naturally produced steelhead in the Upper Columbia River. He described the project goals and objectives, how trapping and other activities are done, monitoring and evaluation methods, and what has been accomplished to date.

Keely Murdoch of the Yakama Nation discussed how the project plans to address each of the five questions posed by the ISRP in its qualification. Fritsch said the F&W Committee recommends approving the project.

This project is an important pathway to explore how to help steelhead, Rockefeller said. I recommend we go forward with it, he added.

The overall question is whether this reconditioning leads to enhanced returns or not, said Bill Booth. I will support this, but when we see this project again in 2016, it would be nice to see a more direct response to that question, he added. This is a good example of the kind of research the region should be engaged in, said Tom Karier.

Vice-chair Jennifer Anders moved that the Council recommend to BPA continued implementation of Project 2008-458 (Steelhead Kelt Reconditioning), conditioned on (1) the Yakama Nation and BPA addressing the questions raised by the ISRP within the current scope and budget of the project as part of annual reports and future reviews; and (2) that BPA and NOAA provide in 2016 an update and status review of this project and how it relates to meeting the intent of RPA 42.2 of the FCRPS Biological Opinion. Booth seconded, and the motion passed.

– **Project #2008-115-00. Lake Roosevelt Burbot Population Assessment**

Fritsch presented the second project, sponsored by the Colville Confederated Tribes, aimed at achieving a healthy and harvestable burbot population in Lake Roosevelt. Jason McLellan, project lead for the Colville Tribes, pointed out that burbot is the only freshwater member of the cod family. Burbot in Lake Roosevelt have been generally neglected by managers and anglers, he noted.

McLellan described the goal of the project, the stock assessment program, and the project's strategies. Long-term, we hope this project will let us better manage the population of burbot, and if we find that additional harvest potential exists, we will explore options to incentivize anglers, he stated.

Chris Donley of the Washington Dept. of Fish and Wildlife (WDFW) noted, by telephone, that WDFW supports this proposal and encourages its funding. We think it will be useful to all managers, he added.

Does fishing of burbot require incentives? Is there anything stopping it now? Karier asked. Anglers don't know how to do it, replied McLellan. If we had an education program, there would be more harvest, he said. A lot of people don't know what burbot is or how to cook it, McLellan added. The state doesn't promote this harvest because it is unknown how many fish there are, and we don't know if the population is strong enough to support more harvest, Donley said.

Anders moved that the Council support the continued implementation of Project 2008-115 (Lake Roosevelt Burbot Population), with the conditions that (1) the Colville Confederated Tribes provide a status update on the pilot approach to the Council's F&W Committee prior to 2017 and (2) full implementation of Deliverable 2 will be based on subsequent review by the ISRP and Council and a favorable recommendation by the Council. Smith seconded, and the motion passed.

**2. Briefing on Research, Monitoring and Evaluation (RM&E) Annual Progress Report Template and Guidance:**

Stacy Horton, Washington staff member; Ben Zelinsky, estuary lead; and Katie McDonald, fish and wildlife project manager, Bonneville Power Administration.

Ben Zelinsky and Katie McDonald of BPA gave a presentation on the new annual report template that BPA has adopted for research and monitoring projects. The template uses a scientific journal format, and its objective is to create standardized reports that increase scientific consistency, improve content and timeliness, efficiency of reporting, and accessibility to information, Zelinsky said. He explained how the template was arrived at and what the reports will contain.

In deciding on this template, we looked at who uses research, monitoring, and evaluation (RME) annual reports and what the reports are used for, Zelinsky said. We conducted a series of interviews and among the results was that people wanted additional information in the reports on adaptive management, policy implications, and lessons learned, he noted. We heard that we need to hold project sponsors accountable for submitting quality reports on time, Zelinsky said.

We will roll out the new template in FY 2015, and FY 2015 contracts will be required to use it, he told the Council. Have you run this new template by the managers? Booth asked. Yes, we involved them upfront, and as a result, we think we are on a better path this time around, Zelinsky replied.

Rockefeller asked if the research projects will state hypotheses. Our goal is to have sponsors come forward with their best statement on what their hypothesis is, and having a consistent template will highlight those statements, Zelinsky said.

This is a problem that was neglected for too long, and the previous template was not adequate, said Karier. Ben and Katie did a great job on this, and it is a huge accomplishment, he added.

This template is impressive, agreed Bradbury. I will be interested to see how people respond and how they come up with the information requested, he said.

## **Break**

### **3. Summary of Comments on Issue Paper on Methodology for Quantification of Environmental Costs and Benefits in the Seventh Power Plan:**

John Shurts, legal counsel; Tom Eckman, director, power division; and Gillian Charles, energy policy analyst.

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

All the comments are posted on the Council’s website, Shurts said. We received “an excellent set of comments,” and I urge you to read them, he told the Council.

The first issue paper topic was treatment of residual environmental effects beyond regulatory controls, Shurts said. Most commenters accept that these exist, but there is

significant disagreement over whether it is possible to quantify the costs of residual environmental effects, he stated. Many say the information is inadequate to quantify the costs of environmental effects in a consistent way, but some urged the Council to try to quantify where possible and suggested sources of information we could use, Shurts said.

Nearly all the commenters expressed concerns about consistency, he noted. Utility commenters were concerned the analysis could result in ratepayers paying for broad social benefits, Shurts added.

The second topic was the treatment of environmental effects of resources not yet subject to regulatory control, especially carbon dioxide emissions, he continued. There were lots of differences in opinions about how the Council should handle this issue, but nearly all the commenters agreed that scenario analyses would be a key part of the power plan effort, especially with regard to carbon emissions from the existing system, Shurts reported. Those analyses could evaluate the effects of different percentage reductions in carbon emissions from the existing system and compare a state-by-state versus a regional approach to compliance 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 should not ignore cross-sector issues with transportation emissions, Shurts said.

The third topic in the paper was incorporation of quantifiable environmental benefits, he noted. Many commenters expressed concern about consistency and said that estimating the benefits of some, but not other, avoided environmental effects could skew resource costs and comparisons, Shurts said.

The fourth topic was treatment of the environmental effects of new renewable resources, he stated. None of the commenters said the Council should get involved in siting and assessment of impacts on land and wildlife resources, preferring to leave that to siting and resource agencies, Shurts said.

At the December meeting, we hope to get direction from the Council on the methodology to use in developing the draft plan and resource cost estimates, he stated.

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 Jim 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 and worthwhile to a lot of people, he stated. 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 CO<sub>2</sub> reduction, Karier added.

You could look at the 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.

We could provide a range of carbon costs in the plan as a benchmark or risk estimate, Karier stated. 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. This issue again raises the question of whether we are developing an aspirational or functional plan, he said.

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 whether regulators will let them recover the costs in rates, Lorenzen said. 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 Bradbury. It's becoming more of a factor that is used in regulation and in planning by utilities, he added.

I worry about incorporating theoretical costs into planning you will use 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, stated Karier. This is a fascinating discussion, said Bradbury. It gives us a sense of what we're headed for in developing the Seventh Power Plan, he stated.

#### **4. Council business:**

##### **– Approval of minutes**

Anders moved that the Council approve the minutes of the October 7-8, 2014 Council meeting held in Pendleton, Oregon. Karier seconded, and the motion passed. Anders moved that the Council approve the minutes of the October 15, 2014 Council meeting held in Portland, Oregon and via Webinar. Karier seconded, and the motion passed.

##### **– Update on RFP to assess Council technology resources**

Staffer Sharon Ossmann explained that the Council has four important technology issues it is trying to resolve. They are: website improvement; the mailing list; collaboration, such as sharing data and files and making more use of "the cloud"; and finding the best ways to deal with data retention and storage, she said.

In September, the Council issued an RFP to get outside expertise to help deal with these issues, Ossmann noted. We received three bids, and we plan to hold interviews with the bidders in November and bring a recommendation to the Council in December, she said. Booth asked about the budget. We originally had a not-to-exceed figure of \$40,000, but we removed that cap in October, Ossmann stated. All three bids that we received are above that amount, she added.

## **5. Briefing on BPA Technology and Innovation:**

Terry Oliver, Chief Technology Innovations Officer, Bonneville Power Administration.

Terry Oliver, chief technology innovation officer of BPA, gave a presentation on BPA's R&D portfolio and the agency's process for managing research and technology innovations. BPA has had an R&D program since 1937, he said. Oliver explained how the process was developed and described activities from 2007 to 2014. BPA has spent about \$70 million over the past seven years and put 200 projects through its portfolio, he reported. In that time, two projects' benefits paid the entire bill, Oliver noted. They are a transmission conductor shunt and an operational multi-gigabit Ethernet on BPA optical fiber network, he said.

We have ramped up our R&D budget, and it is now half of one percent of our revenue, Oliver reported. He described BPA's integrated process of roadmapping, technology transfer, project management, and portfolio management, as well as the process for reviewing and making "go/stop" decisions on projects.

Decisions about projects are made by a Technology Innovation Council, Oliver stated. Each January, we have a 40-hour meeting during which the Council evaluates and votes on all the projects, he said. We aren't insular in our reviews of projects, Oliver noted, pointing out that representatives of Hydro Quebec, Snohomish PUD, and EPRI have sat in on the reviews.

Rockefeller wondered how the Council might apply the methods Oliver described to its RME projects. We don't have a pruning process like yours, but we are beginning to be more systematic, Rockefeller said. He asked where BPA finds the members of the Technology Innovation Council. We get recommendations from organizations and agencies, like DOE's ARPA-E program, and people refer other people to us, replied Oliver. We also use software to match experts up with projects coming into our pipeline, and we diligently screen for conflicts of interest, he said.

## **6. Report on Power Planning Under Uncertainty:**

Tom Eckman.

Staffer Tom Eckman gave a presentation on the Council's approach to resource planning, focusing on how its analytical processes address uncertainties such as electricity demand, resource costs, and risks. This is another in our 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," in that the planner tries to find the right mix of resources – not too many, not too few, but "just right." He 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, Eckman noted.

The Power Plan must address load uncertainty, resource uncertainty, and wholesale electricity market price uncertainty, he explained. Load uncertainty is particularly a problem when generating resources are large and have long lead times, Eckman said. Our approach to load forecasting assumes a lack of perfect foresight, and so we use a “range” forecast, he stated.

Eckman described how earlier plans dealt with load uncertainty, including an “options” approach to thermal projects. In the past, load uncertainty was driven by aluminum prices and large industrial loads, he pointed out. Today, we have conservation and smaller generating resources with shorter lead times, and that has reduced the risk and cost mitigation value of “resource optioning,” Eckman said.

He explained how the plan addresses resource uncertainty, including outages and variability, as with streamflows. Delays in deployment can be a source of uncertainty with energy efficiency, Eckman noted. But, he said, this source of 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 described how tricky it is to predict natural gas prices and pointed out the Council uses a portfolio approach to address resource uncertainties.

The Power Plan must also address wholesale electricity market price uncertainty, he told the Council. Natural gas market surprises affect electricity prices, Eckman noted.

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 said. The plan uses a scenario approach which combines resource strategies and futures, Eckman stated. 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 strategy testing model, Eckman continued. That is, “the future’s like a box of chocolates, and you never know what you are going to get,” he said. 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, Eckman added.

How do you go about determining what is needed in the way of capacity? 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 Karier. If you look at cost-effective conservation, it’s different with each utility, stated 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 underdeployment of energy efficiency, said 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 those sorts of 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. That's a benefit to the utilities, and the most valuable aspects are the findings from the model's analysis, he said. Utilities can pick and choose what fits them, Eckman 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 Booth. I would like to request that staff give us a short 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 what 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 RSAC 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.

## **Break**

### **7. Briefing on Northwest Power Act Requirements for Seventh Power Plan:**

John Shurts; Tom Eckman.

Shurts gave a presentation on the provisions of the Northwest Power Act relating to the Council's power plan, noting that the Act is a 34-year-old statute. He explained all the requirements of the Act with respect to the plan.

Shurts described the power plan provisions in general, the relevant purposes of the Act, the public process for developing and adopting the power plan, the substantive considerations and elements of the power plan, and the relationship of the power plan to BPA's resource acquisitions. Council members asked a number of clarifying questions about the language and intentions in the law.

### **Public comment on any issue before the Council**

Fred Heutte of the Northwest Energy Coalition (NVEC) noted that the Council has been talking a lot about issues of adequacy, reliability, and flexibility and the role of the Seventh Power Plan in keeping the lights on. NVEC wants a power system that is reliable, clean, and affordable, he said. There will be more focus on reliability going forward, as well as on how climate and environmental regulations will shape the plan, Heutte stated.

The Council is asking the right questions, and 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 the Council take a more in-depth look at long-term and short-term transmission plans that affect the Northwest. Those can be useful in addressing the question of whether we can keep the lights on, Heutte said.

The Council's work is important in providing information about resources to resource planners, he noted. In the West, the Council's power plan is very authoritative, Heutte said. ColumbiaGrid, the Western Electricity Coordinating Council, and others rely on the Council's plan, he stated. I suggest you have some presentations from transmission planners like ColumbiaGrid and the Northern Tier Transmission Group and let them explain to you how they stress-test the system, Heutte 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, he noted. It's a good time to talk more about these converging issues, Heutte added.

Approved December \_\_, 2014

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Vice-Chair