Council Meeting
December 13 and 14, 2016
Portland, Oregon

Council Chair Henry Lorenzen called the meeting to order at 1:30 p.m. All members were in attendance, except Idaho Council Member Jim Yost, who joined by phone.

Member Lorenzen announced that there would be an executive session at the close of the Council meeting to attend to personnel matters.

Reports from Fish and Wildlife, Power and Public Affairs committee chairs

Fish and Wildlife Committee

Member Jennifer Anders said the committee heard four presentations:

1. The first was from the Cost Savings Workgroup on Relative Reproductive Success (RRS) projects. These were based on a workshop held in October 2016. The first recommendation was for the Council to coordinate an annual RRS meeting among project sponsors to facilitate further sharing. It also recommended a smart closeout of one RRS project sponsored by the U.S. Fish and Wildlife Service in Abernathy Creek. It will free up $590,000 of cost savings over a three-year timeframe. The committee agreed with these recommendations, and the Council will consider these recommendations in January.

2. Patty O'Toole, staff program implementation manager, is working on the Draft Research Plan with Member Karier. It highlights the importance of results, updates the critical program uncertainties and identifies research priorities. Part of the presentation included a discussion of an obvious tension between what is research, and what is monitoring and evaluation, and how those different projects should be treated. We'll have further discussion and the full Council will consider this in January. Thereafter, the plan will be released for

public comment.

3. Nancy Leonard, staff fish, wildlife and ecosystem M&E report manager, produced the new objectives mapping tool, which focuses on salmon and steelhead natural-origin abundance objectives. It was imposed on ourselves in the 2014 Fish and Wildlife Program. It provides different levels of detail for different audiences. Users can see salmon and steelhead objectives occurring in the Basin. It will be updated as they change at Nancy's fingertips. The purpose is to centralize information that previously was scattered. It will be useful to NOAA's Columbia Basin Taskforce, which is meeting for the first time in January 2017. The tool will be accessible on NWPCC's website at the end of this month. They're open to suggestions on how to improve it.

4. The committee received an update on a toxic workgroup pilot mapping project. The Council has hosted meeting space for a group of regional agency representatives exploring the possibility of mapping toxic contaminants. The focus is on polycyclic aromatic hydrocarbons (PAHs), which are known to cause long and short-term negative effects for salmon and steelhead. The group is compiling data, and it is evaluating the cost and effort to produce a pilot map. We'll know more in 2017.

Power Committee

Council Member Tom Karier said the committee received an overview about carbon emissions in the Northwest from Gillian Charles, staff energy policy analyst. Emissions are following within the Council's prediction in the Seventh Power Plan of 40-60 million metric tons (MMT) per year. Last year, we were at 51 MMT. It consistently varies according to the water years: With more hydro, there's less thermal and carbon emitted. However, upcoming coal plant retirements throughout the Northwest will start piling on with lower generation and capacity. With the closure of Boardman, Centralia, a couple of plants at Colstrip and Valmy, it adds up to 3,000 MW by 2025, which is a significant dent in our power generation. It will have to be made up with other investments outlined in the Seventh Power Plan.

There was a presentation on the Council's forecasting method. There's a method for long-term forecasts (30 years) and a completely different method for short-term (3-5 years). The short term uses hourly and daily data, whereas the long term uses monthly data. To forecast capacity, we need a combination of the two, so we're working on a hybrid model. It's a high-level overview of a very detailed presentation, which can be seen on the website.

There's a new staff paper available for the public, comparing power bills between investor-owned utilities (IOUs) and publicly owned utilities. On average, over the past 10 years, the bills for IOUs have been similar to publics, within a range of $1,000 per year. IOUs have been less than one present to two percent higher. Behind that, publics are paying lower rates per kWh use. So the rates are lower, but

public customers are using more energy. The reason for higher consumption is, on average, customers have less access to natural gas. Another contributing factor may be that IOUs are historically more invested in energy efficiency.

There was an update on the demand response advisory committee. There was strong support and interest in the meeting. About 60 people attended, drawing from all over the Northwest. There were people from all sectors: representatives from utilities, research organizations, utility regulators, consumer industry advocates, program evaluators and others. The committee will be working on definitions, setting it up for the next power plan, and looking at barriers to implementing it. They are working to make demand response a cheaper, more-effective resource for the region.

Last, staff is working on the redevelopment of the GENESYS model. It needs updating and needs to incorporate modern resources. Staff wants to put out an RFP and the Council will review that today.

Public Affairs Committee

Member Jim Yost provided his report by phone. The committee met in Coeur d'Alene. Ben Kujala, power division director, gave a presentation on Power Division staff blogs. They are being read by increasing number of people. Power staff should be commended for the effort put forth to increase awareness. Public Affairs is working on the Council's Field Guide, which is the Fish and Wildlife Program brochure. It's been about five years since they've produced one. They should have a new version soon.

1. Bonneville presentation on CHaMP, ISEMP and AEM

Lorri Bodi, BPA's vice president of environment, fish and wildlife, provided context for the discussion on the Columbia Habitat Monitoring Program (CHaMP), Integrated Status and Effectiveness Monitoring Program (ISEMP), and Action Effectiveness Monitoring of Tributary Habitat Improvement (AEM). Our work together goes back to the 2011 RMNE categorical review recommendations, she said. Our information should be useful for management decisions. We're not trying to gather data and just park it somewhere, we're making management decisions.

Bodi said another theme is looking programmatic or standardized approaches. A new issue is how we deploy technology in favor of our programs. Another theme is the difference between research and monitoring and evaluation. We initiated a standardized approach to information effectiveness monitoring. We implemented a pilot where we looked at the CHaMP data and Forest Service data, and saw how we could integrate the methodologies and the data. We left with the idea that we can use data collected by others, not just data generated by BPA. Last, we've been looking at CHaMP and ISEMP as pilot projects used until the end of the BiOp. This

is an area of personal interest to me, she said. By bringing more standardization, more deployment of the data results and more sharing of the analytic results, and more efficiency, we can make improvements. As with any area of the program, you take on a piece of it and move it forward, and so forth.

Katie McDonald, BPA's tributary habitat research, monitoring and evaluation lead, provided an overview of the history of the 2013 Council recommendations that BPA is responding to and described a subset of actions BPA took to implement those recommendations. She also shared a refresher on the BPA-funded AEM, including its study design, implementation schedule, and high-level results and accomplishments. She spoke about BPA's comprehensive Hillman Synthesis report and the agency's next steps.

The 2013 Council conditions and recommendations originate in part from the 2010-2011 RME Categorical Reviews, where the council and the ISRP asked if the collective and ongoing suite of habitat RME projects were adequate to assess and monitor habitat actions. To answer this, the Council and ISRP provided recommendations for:

- Programmatic Framework for habitat RM&E,
- Standardized programmatic approach to effectiveness monitoring,
- Exploring Data integration with regional habitat programs, and
- Results reporting to inform and guide decisions on future habitat implementation.

In response, BPA and NOAA submitted CHaMP, ISEMP and the pilot AEM for ISRP review in January 2013. In June 2013, the Council provided a decision letter containing recommendations for continued implementation of CHaMP, ISEMP and the pilot AEM. Since, BPA has used those recommendations to shape the TRME projects from 2011 to the present.

Bonneville is responding to the 13 conditions through a high-level PowerPoint presentation, and through a response letter from BPA staff and acting executive manager, Jeff Steer. Bodi said that the letter was emailed the prior afternoon.

The plan for CHaMP/ISEMP implementation through 2018 has BPA and NOAA coordinating on completing deliverables included in existing scopes of work:

- CHaMP continues in a pilot phase.
- No expansion of data collection efforts.
- Focus on completing the analyses, syntheses and development of products for 2017/2018, including:
    - Use in the proposed action and BiOp analytical framework for 2018,
    - Use in habitat restoration prioritization and adaptive management,
    - Documentation of fish: habitat relationships, and

- Programmatic RME guidance on habitat and fish status and trends monitoring.

Bonneville completed a CHaMP/PiBo habitat data integration exercise. This 2014/2015 pilot effort was in partnership with U.S. Forest Service. It determined crosswalk and data integration feasibility for a subset of common CHaMP and PiBo metrics:

- Large wood frequency
- Temperature
- Slow water percent

The pilot effort wrapped up in 2015.

Next, Bonneville is proposing to submit CHaMP/ISEMP and AEM for ISRP Review. It has been working with the Council on the timing. It intends to formally submit them in January 2017, with the most recent results submitted in March/April 2017. Bonneville looks forward to working with the Council and ISRP to:

- Review AEM programmatic approach,
- Review progress on defining fish: habitat relationships, and
- Inform program & BPA's regional approach to effectiveness monitoring and TRME.

Regarding the AEM, the reach scale M&E allows for an examination of the biological benefits of habitat actions:

- It was developed in response to the 2010 Categorical Review,
- It was built to be consistent and compatible with Washington SRFB AEM approach, and
- The pilot was started in 2013.

There are two types of M&E included in AEM:

- Extensive post treatment (EPT)
- Multiple before control/after impact study design (MBACI)

There are 11 habitat action categories. The EPT action categories will wrap up in 2019; and MBACI action categories will be complete in 2025.

McDonald said that the overall goal of AEM is to quantify localized, reach-scale changes in habitat and fish abundance that result from implementing habitat actions, so that we can inform cost-effective actions on the ground going forward.

She described some of the progress made in some of the action types. For example, the complete barrier removal category has reached its full sample size. There also has been progress in getting the sample size for the levy setback removal. Planting and evasive removal categories will commence in 2018, after the large-wood phase is completed.

A snapshot of results from the AEM project include:

- Nine council FW sponsors implement the AEM methods.
- AEM completes M&E on projects from 17 different Council Fish and Wildlife Program sponsors.
- 61 percent of the project samples have been fulfilled.
- The Full barrier EPT category was completed in 2016:
    - Equal numbers of anadromous fish are now found above and below formerly impassible culverts.
    - Fry densities & genetic analyses indicate that are primarily anadromous steelhead.
    - All culverts meet WDFW criteria for full passage two to 12 years post-treatment.

McDonald said that results from this project would be available in the combined EPT and MBACI annual report in April 2017, which will go for ISRB review.

BPA has been working on a comprehensive report — the TRME Synthesis, which is designed to increase an understanding of effectiveness monitoring and the relative effectiveness of categories of restoration actions, at a variety of geographic scales. It is still in draft form and will be published in early 2017. BPA will be looking for Council feedback in Spring 2017.

Member Karier said there wasn't much about budgets or numbers in the presentation. What about the budget? How much spending has there been per year and over 13 years?

McDonald said they would get back to him with figures. Bodi said it's several millions per year. It's a substantial portion of the fish and wildlife budget, she said.

Member Karier said they're very expensive projects. "I think you budget about $9 million per year over the three projects, and $75 million over the 13 years," he said. "What's bothered me is that we get reports, but we don't get results. We get process, actions, and the science panel hasn't helped a lot on this." He said the science is fine, but the results are absent. He recalled a presentation three years ago, where the science panel gave ISEMP and CHaMP a raving review. He said they asked about results and they were stumped. One thought there's some benefits for beaver, and that beavers are good for fish, but we knew that before. "So what do we do with this?" he asked. "Do we do another review? Do we carry this forward? After this extremely poor performance, they didn't help us with the court case. I don't know if

the Council has ever been able to incorporate a result from the $75 million effort that's changed the kind of habitat strategies that we've used. The Council hasn't been able to use any of it to date."

He said he's just talking about obtaining preliminary results. What have we found so far, even if it's not statistically significant? "They questions aren't that hard: What are the benefits of habitat investment on abundance, productivity and diversity?" he said. "I haven't seen anything in the presentation or the ISEMP and CHaMP reports."

Member Karier added, "I recommend that we suspend funding. Are they asking the wrong questions? Are they doing something different than what we asked them to do? Is it impossible to answer these questions?" He said to find out and plot a new path forward, and recommended taking a pause on this. These projects cost $800,000 per month, almost a million dollars per month for what he sees as an unfortunate problem. "There are lots of projects out there; a lot of great successes. This is a key budget item that's supposed to support that work." He noted that the AEM will study the benefits of fencing. We know it keeps cows out of the stream; we studied it for 10 years, he said.

Bodi replied that this is the right moment in time for all these questions. "We want to get 'good enough' results," she said. "We're looking for how much do we need to know to make informed habitat decisions. In general, we have an increased emphasis on analyzing results and providing results that are useful to managers. It's not just true here. A lot of reports are about methodology and data collection. You'll see, for the three projects, there's a focus on this window, because all three are pilots. There's a focus on how much do we get, how much does it cost, how useful was it, how were the results deployed."

She said that for the last comprehensive analysis in 2013 for the BiOp, they did do a synthesis of habitat benefits and they are looking to do another synthesis of habitat benefits from the studies. "I have the sense that there's more out there than gets reported," she said. "When I go out and look at habitat projects, I hear information and then it isn't in the analysis. So I share that frustration. So part of our message to project sponsors is that this is the year to share your results because this is going into the decision on what we're going to do post 2018."

Member Karier said, "As long as we keep in mind that it's not just going forward, they need to show us $75 million worth of results that we've already paid for."

"It's hard to argue with that," Bodi said.

Council Member Bill Booth said there was a lot of debate when these pilots were proposed. These were proposed for specific reasons under the BiOp. We've been in court. I went along with it because I knew there was a hole that needed to be filled. Is there something out there that was presented to the court to justify the habitat work that's been done?

Bodi said that from BPA's point of view, they did three different things:

1. A habitat benefits paper – summarizing the benefits of habitat projects. They're updating the benefits paper.
2. They had one of our technical services contractors, Charlie Paulson, do ongoing correlation of where we have high-intensity habitat projects, what are the fish numbers looking like.
3. Last, they commissioned Tracy Hillman to do a paper synthesizing all the information.

This is a big decision moment for us on habitat monitoring, Bodi said. There is a lot of data collection, but not a lot of analysis. Member Karier said not all of that is ISEMP and CHaMP.

BPA's Ben Zelinsky said that part of motivation between having CHaMP and ISEMP in the spring, so another ISRB review, and to have sponsors come and share that with you.

Bodi said we only need to be informed enough to not make the wrong decision, we don't need to show something at the level of a peer-review journal article.

Member Karier said the science review is most valuable when you have results and you ask the science panel say if we can act on these. We keep sending reports without results. The methods are solid, the results are what's missing. I think we need a policy review first. If we have no results, so we're wasting our time sending it in.

Bodi said it's a good topic for follow-up discussion. The science review might not get at what you and Member Booth are discussing. We're in alignment that these were pilot projects and we're taking a fresh look at them right now, she said. Seeing what the latest reports show will be informative for all of us.

Nancy Leonard said the next step is for Council staff to write up recommendations to go to the Council in January.

Member Booth asked if they could we get three- or four-page executive summary that outlines what's been done, what it's cost, the results, why they've been helpful and how they've been used?

Bodi replied that they would do that.

2. Status report on the Corps of Engineers' funding for Watercraft Inspection Stations:

Richard Turner, project manager for the U.S. Army Corps of Engineers' Walla Walla District, briefed the Council on the Letter Report and Environmental Assessment on the Corps implementation of cost sharing for watercraft inspection stations. The program is designed to prevent the spread of invasive mussels, which now have been detected in Eastern Montana. The Corp is coming up with $3.75 million to help cover the costs of watercraft inspections in the four Columbia River Basin states.

Turner provided an overview of the program, including existing and future actions. He discussed the WRRDA authority for the Corp to establish watercraft inspection stations in Idaho, Montana, Oregon and Washington. A 50/50 cost share with the states calls for constructing, operating and maintaining watercraft stations. The effort calls for coordination with states, tribes and other Federal agencies

In the report, the Corp considered:

- No action
- Expansion of the watercraft inspection program, including:
    - Adding locations
    - Extending daylight hours
    - Adding nighttime inspections
    - Site improvements
    - Utility connections
    - Canine detection capabilities
    - Improved signage

- Watercraft inspection at source waters
- Monitoring: identify water chemistry parameters and early detection
- Contingency planning and a rapid-response plan

Turner discussed the economic considerations and what benefits could be derived from running the inspection stations. He discussed steps that could be taken if they find infected vessels. Recommendations included developing partnerships with states to expand the inspection program.

To contain the problem at the source, Turner said that Utah, Nevada and California should implement a law similar to Arizona Fish and Game Dept. Directors Order 3 R05/15. There should be mandatory inspections at infested Federal lakes, and regional inspections for vessels leaving the Great Lakes that are bound for the Columbia River Basin. There also needs to be a public awareness campaign.

Remaining steps include a regional review, USACE technical and policy review, submission to USACE headquarters in January 2017, and then drafting agreements specifying the scope of work, identifying watercraft inspection locations and cost.

The Corps released its report last Wednesday and there are 10 days for comments.

Member Anders asked if the Montana incident affected or changed their strategy. Jeremy Weber, planning project manager for the Corps, said it hasn't changed the report but it changed the processes.

Turner said they'll get comments from the region and will go public with the environmental assessment next week. Once we get approval, we'll be ready to partner with the states, he said.

Council Member Guy Norman said, "So you're talking with states. After the appropriation is in place, are the states ready to accept?

Turner said they hope to have an agreement in time for the 2017 season. There's $3.7 million in an account. Once they get approval, the money will used to fund the inspection stations.

Member Booth said that unless this kicks into gear fast, we'll miss this season. People need to decide who gets it, where the money's going and what matching funds are needed. I feel like it's a two-minute drill, he said. And now we have them (mussels). We have the urgency, but I don't get the feeling it's coming the other way.

Turner replied, that it will be close, but whenever we get approval, they can use the money. It has to be after we sign the agreement.

Member Lorenzen asked when will it happen. April 1?

Webber replied that they're hoping for February. Supposedly the funds are already set aside. To move the money we need an approved report. Headquarters is looking at it. There are similar agreements in the South underway, and they are hoping that they can be modified to work up here.

Member Lorenzen asked what could be done as a Council to help move this along.

Webber said to work with the states about whether they want to work individually or through some type of broker.

Council Member Pat Smith asked if there's a sense of how far the money will go. Based on current authority, about two years, Turner said.

Member Karier said, “I share your urgency. Ideally, we want this done before the first stations open. Trying to do that in the middle of the season would be that much more difficult. Will that have to be incorporated into the letter report?”

Member Booth asked how they would portion out the funding. Some are spending more than others because legislatures have apportioned funding already. Will states know in advance, what they can expect?

Turner said he could only look at what he has the authority to do in the Basin and the money available. They’re working on that. I don’t have a hard budget, he said. It’s based on what they spent last year. There are no hard plans for any huge expansions outside of what they spent last two years.

Member Booth asked if he makes that decision. It’s not at my level, Turner said. We’re talking to attorneys now about where the money would go with limited funds.

There was a further discussion over the process of distributing the funds. Webber said they could process the money quickly. Usually the holdup is with the documentation.

Leslie Bach, Council staff, said that her understanding on how to best use the money is a conversation underway.

3. Council decision on proposed GENESYS redevelopment effort

Ben Kujala, power division director, said that Council staff is seeking to update the GENESYS model software, which simulates the operation of the region’s power system. It is used to assess the adequacy of the region’s power supply and the impacts and costs of non-power-related constraints placed on the operation of the region’s hydroelectric facilities.

Why update GENESYS? According Kujala, four items have been identified:

1. The time-dependent nature of the hourly hydro capability,
2. The interaction between assignment of reserves and system capacity,
3. The trade-off between decisions for economics and adequacy, and
4. The representation of limitations on operators in dispatching the system.

Staff has finished the specifications, and they are looking at coding and development work.

Staff examined three paths forward:

1. Self-development with contractor help,

2. Collaborate with labs or a university, and
3. Contract with a vendor through an RFP (the preferred route).

After talking to multiple vendors and exploring other options, staff believes that there are two or more well-positioned vendors to bid on the RFP. Existing work may complement or extend potential capabilities of the redeveloped model. Issuing an RFP leaves flexibility to pursue other options if the response is not satisfactory.

The budget range is $300,000–$450,000, with project completion at the end of fiscal year 2018. If no qualified candidates emerge, the Council can go back to looking at the first two options.

The Power Committee approved releasing an RFP.

Member Anders remarked, “You created GENESYS from the ground up. Do any vendors come to mind?”

There is a couple, Kujala said. There’s PRSI from Brazil and AVISTA, which has been working a lot on its model structure. The heart of the problem is hydro, he said. It’s a very complex problem with holding back and releasing.

Member Anders asked is the money was coming from the power budget? Yes, he replied, it’s coming out of the Council budget.

Motion to Authorize Staff to Issue a Request for Proposals for the Redevelopment of the Genesys Model

Member Booth moved that the Council authorize staff to issue a request for proposals for the redevelopment of the GENESYS model, specifying a two-year period for redevelopment at an amount not to exceed $450,000, as presented by staff and recommended by the Power Committee.
Seconded by Member Anders. Motion approved without objection.

4. Update and review of 2015 regional sales and loads

Massoud Jourabchi, staff economic analysis manager, briefed Council members on the state of electric industry in 2015. His presentation looked at economic drivers, including:

- Population and economy of states
- Electric sales, revenues and loads
- Impact of weather on loads
- Doing more with less electricity

The regional population is growing, Jourabchi said. Also, the region's share of the national population is growing. We were 4.2 percent in 2004, and now we're over 4.3 percent. He said maybe that doesn't seem like much, but it's growing faster than the nation as a whole.

The number of electric customers is growing at 1 percent annually during the past decade. Employment is improving. The region has added 560,000 jobs since 2005. We were in a recession, but we're now out of it. Unemployment rates have gone down significantly, 3-5 percent in 2015.

Gross State Product is growing faster than the nation. Oregon is growing at 4 percent, Idaho at 2 percent, Montana at 3.5 percent and Washington at 3 percent. The region is 3.2 percent. It's better than nation as a whole, which is 2 percent.

Jourabchi said we're moving from a low-value, high-resource base economy to a higher-value, information-based economy. Manufacturing is increasing, information technology is increasing, and so is construction and agriculture. Declining areas are mining and utilities, which includes natural gas and water services.

Income also is seeing improvement. In 2005, the average income for the nation was $41,000, Idaho was lower at $33,000, and Montana between $33,000 and $34,000. Oregon was $37,000, and Washington was higher at $43,000. All states have improved. Now, for example, Washington is $50,000 and Oregon is at $42,000. All states have improved their employment and income pictures.

This should have positive impacts on sales, Jourabchi said. More employment and higher income should push sales up. But in 2015, regional electricity sales were lower than 2014 by 287 aMW. That's significant for utilities. Looking at 2016, the latest data shows continued decline. Data up to September 2016 shows a further 3 percent reduction in sales.

In 2014, regional sales were 19,500 aMW, and in 2015, that went down to 19,150 aMW. By class of customer, for commercial customers there was a 40-aMW increase between 2014 and 2015, whereas residential lost 180 aMW. Industrial (including direct service industries) had a 70- to 80-aMW reduction. Agricultural output improved, but there was an 82-aMW reduction in sales.

Weather is playing a bigger role in keeping sales down, Jourabchi said. The commercial sector went up 40 aMW, but it actually lost 200 aMW because the weather was warmer than normal. Residential lost 480 aMW, but if you normalize for weather, sales would have been up by 670 aMW.

Looking at revenues over the past decade, electric utility revenues increased about 3.6 percent per year, with roughly 1.8 percent per year for inflation, and the other half for cost increases.

Looking at rates, the residential sector saw an increase in monthly bills from $80 to $90, or $84 average. Average rates are growing at 3 percent annually, while the average residential bill is growing at 1 percent. That two-percent difference is due to a number of factors, including conservation. We're using energy more efficiently, Jourabchi said.

A growing trend is the availability of advance metering. Now we're providing information on an hourly basis to that customer. When people know they're using x amount, and it's too high, they can respond to it. It's also benefitting utilities by reducing meter-reading costs.

More interesting are the AMR and AMI (automatic metering infrastructure), which allow two-way communication. The region is a little behind the nation. With daily digital access, people are getting daily information. With direct control of appliances, it benefits peak load control. Utilities are required to supply some savings with these measures.

Regional demand response availability and use — As of 2015, about 555 MW of load is under demand response contracts. It's mostly industrial and some agricultural customers in PacifiCorp and Idaho Power service areas. Utilities are reporting that they are saving 41 MW of peak in the residential sector.

Touching on weather's impact, it can dampen or increase sales. 2015 was much warmer than normal. We had our winter peak in November, which is not typical.

2015 ranked first as the warmest year in the past 88 years. That was followed by 1934. We have more incidents of hot temperatures in the summer in recent years than we have had of cold winter temperatures in recent years.

Looking at temperature between 2008 and 2015, on an average annual basis, 2015 ranked first for warmth. Warm weather conditions in 2015 lowered loads by 670 aMW (3 percent of load).

In 2015, our loads would have been higher by 670 aMW with normal weather. Winter peak load of 29,120 MW occurred on November 30, 2015.

Jourabchi discussed the existence of two daily peaks in the winter: at 8 a.m. and 6 p.m. Summer peaks are once in the evening at 5 p.m.

The difference between summer and winter peaks has been shrinking. The winter peak is going down and summer peak is going up. The overall trend for winter peak is downward.

Regional load growth in the past decade continues to be flat. We believe a lot of it is due to market and programmatic conservation, Jourabchi said.

He discussed the shifting of annual peaks. The overall trend is downward. It's a faster decline than what was anticipated in the Sixth Power Plan. We are getting there faster. One indicator of the health of the system is load factor. You want a load factor of over 50 percent. The overall load factor for the region is 65 percent.

Looking at doing more with less: it's been a work in progress. Looking at the outputs from all sectors, inflation adjusted, how much goods and service are being produced per MWh? Our region is producing more goods and services with the same MWh, Jourabchi said. But our region is becoming more similar to the nation. In 2005, we were producing $3,000 of output per MWh. By 2014, we were up to $4,000 per MWh. We've been able to increase output by $1,000. This growth rate is not only present in economy as a whole, but also in the residential sector. In 1980, each individual was consuming 5.6 MWh per year. By 2014, it was down to 4.75 MWh. There has been a significant drop in consumption of almost 1 MWh.

Natural gas customers are growing. Jourabchi said we had more than 2.1 million in 2005, and now we have 2.5 million. If you look at residential sector, we're seeing the same efficiency pattern. In 2005, residential customers were using 76 Mcf per household. By 2015, it was down to 60 Mcf. We've had a 3 percent drop every year. Energy efficiency is present in the gas side too. We're removing weather in this analysis.

We see an increase in output from the commercial sector per MWh. In 2005, there was $12,000 per MWh, up to $22,000 in 2014. There is less aluminum, paper and pulp; and more computers and information technologies.

In summary, the regional population, economy and income are growing faster than the nation. Employment levels are returning to pre-recessionary levels. Sales and loads are flat. The difference between summer and winter peak is shrinking. Revenues for utilities are increasing in nominal terms, but in real terms, they've been flat.

Bills are growing, but more slowly than rates. Conservation and weather have dampened consumption.

Member Anders said that sounds like great news. Are any findings significant enough to affect your modeling?

Jourabchi replied, yes and no. As the impact of temperature on peaks becomes more pronounced, it has led to some changes in modeling approach. We have had an extensive discussion earlier to create a hybrid model to incorporate the impact of weather on loads.

The Council meeting adjourned and Members went into executive session.

Wednesday, December 14

Member Lorenzen brought the meeting to order at 9 a.m.

5. Council decision on Step 1 (Master Plan) review for Project #2007-401-00, Kelt Reconditioning and Reproductive Success Evaluation Research

Mark Fritsch, staff project implementation manager, said the project received a favorable review from the Fish and Wildlife Committee last month. A component is the Snake River Kelt Reconditioning Facility Master Plan. It proposes to develop a low-capital facility to support kelt reconditioning to improve listed steelhead abundance in the Snake River Basin.

Fritsch was joined by Doug Hatch from CRITFC and Jay Hesse with the Nez Perce Tribe, who are cosponsors of the initiative. Also joined Richie Graves, and Brian Mercier from BPA, and Chris Beezley, one of the principal scientists who produced the master plan.

Graves said RPA 33 was intended to improve the productivity of B-run steelhead to offset harvest impacts, which were contemplated in the joint evaluation of harvest in the Upper Snake and FCRPS actions. He said they figured out that if you could capture about 180 kelts a year, you could provide a 6 percent improvement in productivity for most of the populations. That was agreed to by NOAA, the tribes and Federal Action Agencies, so that was entered into the BiOp as an RPA. It's been an interesting journey. Nobody had ever done that before, so the science in its infancy. There has been a lot of good work done by Hatch and Hesse. From NOAA's perspective, Judge Simon told us to implement the reasonable prudent alternative, even though he struck down the BiOp, so we're trying to do that until 2018.

Fritch said that on March 28, they received the master plan from CRITFC and the tribe. It was sent to ISRP in May. There were some questions. On July 13, they received a response from tribe and CRITFC, received a finalized ISRP review, which said it met scientific criteria. They did qualify it with an HGMP-refined M&E plan and the environmental assessment. That was step two and three of the review process for hatchery design approval.

Hatch lauded the coauthors, Nez Perce, CRITFC and University of Idaho for the work on the study, and Bonneville for funding it.

Hatch gave a rationale for the effort. In the spring, steelhead have been fasting from 9 months to a year. Kelt are steelhead that try to go back downstream. They don't die like salmon. Low numbers of natural steelhead are in the Basin. They are looking at 55,000 steelhead this year. In the Kalama River, the kelt rate is unknown, but the repeat spawner rate is 17 percent. In the Willamette River, the kelt rate is 58 percent of escapement, and the repeat spawner rate is 1.5 – 12 percent. Yakima River, 70

percent of the spawners are back as kelts. There's a repeat spawner rate of 3.4 percent. At Lower Granite in the Snake, half the spawners are back, but the further upstream you get, the repeat spawner rate falls to less than half a percent.

Kelts are mostly female, more than 85 percent. Males tend to stay on the spawning grounds longer. This project wants to increase the reproductive success of steelhead.

Hatch provided a summary of kelt reconditioning efforts in the Basin. It started in 2000 as a feasibility study on the Yakima River. It grew to a reproductive success study in 2008. Then it was expanded to include the Snake River. Looking at the dollar amount, it is an umbrella project encompassing three projects.

The Kelt reconditioning process was described. He gave a summary of reconditioning efforts in the Yakima and Snake rivers. Looked at survival numbers. If they came in fair condition, they survived. If in poor condition, they didn't. Bigger fish don't survive as well as smaller fish. In Yakima, they collected 9,200 fish and survival was 40 percent.

Different management scenarios were discussed:

- Control – PIT tag and release
- Transport – Fish collected and transported
- Short-term
- Long-term

Hatch summarized physiology studies, and evaluations of reproductive success of reconditioned kelt steelhead. He discussed success in a hatchery setting versus a river setting. They worked on a feasibility study using the Cle Elum Hatchery spawning channel.

He reviewed the effects of artificial reconditioning on homing of kelt steelhead, and summarized kelt project performance. They had a 40 percent survival, but improved on that. Snake work is tracking very well. Once they figured out issues at Dworshak, survival has been a lot better.

Hatch read a summary:

1. Columbia River steelhead populations are listed under ESA and require novel survivability strategies.
2. There is a relatively large abundance of kelt steelhead in the Columbia River even in the upper most areas.
3. In general, repeat spawning steelhead make up a very small proportion of the spawning run.
4. Increasing repeat spawners in steelhead populations can have many positive effects on populations including increasing; genetic diversity, lifetime fecundity, and fitness since genes are distributed across generations

5. Long-term reconditioning kelt steelhead provides 5 to over 100 times more repeat spawners than leaving the fish in the river
6. Physiology studies have provided us with a much better understanding of energetic and physiological status of kelts, improved our understanding of alternative life histories in post- spawning fish, and improved survival and health of reconditioned fish.
7. Blood hormone assays are useful to classify consecutive and skip spawner steelhead.
8. Reproductive success studies are underway at a variety of scales: hatchery analog, spawning channel, and natural river. Results are encouraging
9. Artificially reconditioned kelt steelhead appear to repeat home with high fidelity.

The facility proposed is located at Nez Perce Tribal Hatchery, and it is the most cost-effective and reliable solution. Specifically, the installation of six, 20-foot, circular tanks and a building to support the long-term reconditioning of up to 750 kelts is proposed, supporting the goal of an annual release of 180 reconditioned B-run kelts. The total estimated preliminary construction budget for the facility as outlined in the master plan is $1,987,100.

Fritsch said the project has been around since 2000. The Council has visited it on different occasions.

Member Karier said it's an impressive presentation that conveyed information the Members need. When you build it and it operates, what's the metric for success?

Hatch said the number of fish released. These are mature, wild fish we're releasing. We have that goal of 180 fish. We want to check that one off.

Member Karier asked Fritsch about the cost estimates: You have the $2 million construction costs we're voting on. But the $16 million figure, some of that money has been spent. What percentage is going forward?

Fritsch said that $16 million captures the capital expense for 2008–2017, which is the amount identified through the accords. It includes the $2 million in capital. There was $14 in expense. It's a consolidation of the three projects, which is why the cost are extreme. It is a labor-intensive project, with research, monitoring and evaluation.

Member Karier said he's just trying to understand what we've spent and what percentage is needed going forward, and will that include the $720,000 O&M going forward?

Fritsch replied that's an estimate of what it will take to run the program going into the future. The bulk of the $16 million has been spent, except for the capital. It's a summation of the budgeted amount and what has been accumulated since 2008. I don't have the exact number.

Member Norman asked about the total estimate of repeat spawners. Looking at the table with 224 — how does that compare to the 180 fish? Hatch: This table was driven by estimates of fish available greater than 60 centimeters. That was the amount available at Granite.

Member Norman said, I look at letter from Rob Lothrup with a potential for an additional 129 fish associated with trapping at Little Goose Dam. Is that in future plans? Hatch replied that they kept their options open for collections at weirs. There are possible collections at dams such as Little Goose, perhaps another 100 fish. We're not contemplating going to those places, unless we can't meet the RPA goal.

Member Norman asked in terms of the 6 percent increase in production associated with the 180 … what was the base period?

Graves said his recollection was 1990 to 2006.

Member Norman recalled in some of those base period years, there were less than 3,000 fish, all the way down to 1,000 or less.

Graves replied that there probably were some periods of low productivity that aren't being reflected.

Motion to Approve the Snake River Basin Steelhead Kelt Reconditioning Facility Master Plan and Proceed with Step 2/3 Activities.

Member Booth moved that the Council approve the *Snake River Basin Steelhead Kelt Reconditioning Facility Master Plan* and recommend to Bonneville that the project sponsors for the proposed facility, part of Project #2007-401-00, *Kelt Reconditioning and Reproductive Success Evaluation Research*, proceed with the next steps of the major facility planning process, on the condition that the project sponsors address in their next review the four issues raised by the ISRP in this review, as presented by staff and recommended by the Fish and Wildlife Committee

Jennifer second. Passed without objection

6. Presentation by Action Agencies on the "Columbia River System Operations Environmental Impact Statement" process.

Tony Grover, staff fish and wildlife division manager, introduced David Kennedy, Bonneville Power Administration, and Sonja Kokos, the Bureau of Reclamation, who discussed the public scoping period for the Columbia River System Operations environmental impact statement (EIS) with the Council.

The EIS calls for the U.S. Army Corps of Engineers, Bureau of Reclamation, and Bonneville to present a reasonable range of alternatives for long-term system

operations, and to evaluate the potential environmental and socioeconomic impacts on flood risk management, irrigation, power generation, navigation, fish and wildlife, cultural resources and recreation.

Kennedy, Kokos and Rebecca Weiss, U.S. Army Corps of Engineers, are running the National Environmental Policy Act (NEPA) process as a result of U.S. District Judge Michael H. Simon's order.

It's a fast and aggressive schedule, according to Kennedy. The process needs to be done by 2018, which is ahead of when the new EIS needs to be done.

"We're looking at everything instead of just power," Kennedy said. The EIS is evaluating alternatives and tradeoffs (including climate change and dam breaching) and the effects on resources (including ESA-listed species, cultural resources and economics). In this scoping phase, Kennedy said they held 16-20 meetings throughout the region, concluding in Astoria.

A status report on NEPA is due to the court in Oct. 30, 2017, and a status conference is set for Nov. 30, 2017. A draft EIS is due March 2020, with a final EIS due March 2021.

At the public meetings, there is a lot to explain, Kennedy said. There are about 40 boards with subject experts on hand to explain to the public. The meetings are held in an open house format. There are laptops for people to type in their comments or a stenographer to type in comments for attendees. There have been several requests for extensions for the comment period due to the holidays. More than 2,000 people have attended.

The next steps are to categorize the comments and summarize them. Alternatives can be discussed and drafted. They will consider if additional data is needed. Kennedy said the judge will be interested in the number and types of comments obtained.

Several comments were related to the Lower Snake Dams, Kokos said, and many of those comments were about saving those dams, so there were comments on both sides.

Comment period ends Jan 17, 2017. There is a website with all of the public information: www.crso.info.

Member Anders said that one slide indicated there would be consultation with tribes and other groups. What is the format of those? Kennedy said that some have a regulatory format, such as with NOAA and others. Tribes have many ways to engage using listening sessions and closed tribal meetings. But there have been public meetings too. Also, they have working groups with tribes to talk about impact analysis. There is quite a bit of interaction.

Member Anders said she is aware of some objections by environmental groups about the format of some scoping meetings. Have you responded to those objections in any way? Kennedy replied, “I don’t know if we responded formally in writing. In general there is no prescribed way to respond when scoping. We chose the open house method because of the complexity of explaining system operations.” He said folks have expressed frustration with ability to submit comments. But they can submit multiple comments. We’ve received a pretty robust number of comments. It seems like it’s working and we’ve had feedback on how folks appreciate the format.

Member Smith said he attended three open houses in Montana and thought they provided useful background. Regarding the Columbia River Treaty negotiations, certain aspects will expire in 2024, and this CIS is scheduled for 2021. If something were to happen within that timeframe, is it possible this process could be used to evaluate the implications of that? Or will the treaty be on a separate track?

“We don’t know” is the straight answer, Kennedy answered. They’re on parallel and concurrent tracks. The treaty is being led by the U.S. State Department. They’re embarking on engagement with Canada on those conversations. Some of those conversations may help inform our NEPA process.

Member Karier observed that if there are significant changes in system operations due to the treaty after 2021, you might have to do this again.

Yes, Kennedy replied.

Member Karier said he attended sessions in Spokane and was impressed by how large it was. What’s the budget for this process and who’s paying for it?

Kennedy said three agencies are paying. It’s a five-year process, costing $40 million. Member Karier remarked that you could save a lot of fish with that. Kennedy said that some monies will be absorbed by BPA ratepayers, and others will be appropriated by Congress for the Bureau and Army Corps. Member Karier asked if there is a formula for what’s appropriate for ratepayers? Yes, it’s based on the power share, Kennedy said.

Member Karier asked, “You can achieve that allocation?” Yes, Kennedy said.

Grover said that the Council should submit its Fish and Wildlife Program and Power Plan, but there is a month before the deadline. If the Council chooses to inject more comments, it could revisit this at the next Council meeting in January.

Member Lorenzen asked Grover, procedurally, are you proposing staff drafts comments? How do you propose soliciting the opinion of the Council in the timeframe?

Grover said they could transmit it to Kennedy and Kokos by email. He said he could ask all of the Council members if they had comments.

Member Booth commented, “I would imagine all the states are making comments. The State of Idaho will have extensive comments, and that’s the appropriate way to weigh in.

Member Lorenzen said we could certainly submit our Power Plan.

Member Bill Bradbury said he strongly agrees with Member Booth.

Kennedy said he thinks they have about 20 state agencies. Don’t feel you have to have all your comments forever in by January 17. Opportunities will continue.

Member Lorenzen said he saw nothing about power and how that’s integrated.

Sonya said we’ve received between 40,000 – 50,000 comments. Most from individuals and small groups.

Council Business:

Motion to Approve the Minutes of the November 15-16, 2016, Council Meeting

Member Booth moved that the Council approve for the signature of the Vice-Chair the minutes of the November 15-16, 2016, Council Meeting held in Coeur d’Alene, Idaho.

Second.

Corrections:
Member Anders said that on page 9, Member Bill Bradbury is listed as “Bradley.”

Member Karier said that on page 20, there are a few paragraphs on the cost savings work group. We had a lengthy discussion about it, he said. There was discussion on issuing RFIs, and there was an agreement to ask staff to develop RFIs about sturgeon. That isn’t included in the minutes. He asked to postpone approval until that element is included.

Member Lorenzen recommended postponing approval of the minutes until the next Council meeting.

Member Lorenzen adjourned the meeting at 10:03 a.m.

Approved January _____, 2017:

_____
Vice Chair

x:\jh\ww\minutes\december 2016 minutes.docx