

James Yost
Chair
Idaho

W. Bill Booth
Idaho

Guy Norman
Washington

Tom Karier
Washington



Northwest Power and Conservation Council

Jennifer Anders
Vice Chair
Montana

Tim Baker
Montana

Ted Ferrioli
Oregon

Richard Devlin
Oregon

Council Minutes June 12 and 13, 2018

Tuesday, June 12

Council Chair Jim Yost brought the meeting to order at 1:30 p.m. Council Members Guy Norman, Ted Ferrioli, Bill Booth, Tim Baker and Richard Devlin were in attendance. Member Jennifer Anders did not attend and Member Tom Karier joined by phone.

Reports from Fish and Wildlife, Power and Public Affairs Committees: Guy Norman, chair, Fish and Wildlife Committee; Tim Baker, chair, Power Committee; and Bill Booth, chair, Public Affairs Committee.

Fish and Wildlife Committee

Council Member and Fish and Wildlife Committee Chair Guy Norman reported on six items:

1. Dr. Brent Nichols, manager of Spokane Tribal Fisheries, spoke on a modernized creel data system for catch estimates in Lake Roosevelt. They worked on developing an electronic data system to collect validated, real-time data.
2. Patty O'Toole, program implementation manager, updated the committee on the Fish and Wildlife Program amendment process. A letter was sent out May 16 to tribal leaders and federal and state directors. About 130 letters were sent out as well as 1,000 emails to interested parties. The committee reviewed the website with linkage to more information on the amendment process, a form to make recommendations and a timeline. Recommendations are due by September 14.
3. The Regional Coordination Forum took place yesterday. Over 50 co-managers attended and there were nine different agenda items. The Council will hear more about those items today and tomorrow. The plan is to meet again around mid-November.
4. Idaho Fish & Game reported on poor survival of sockeye releases into the Snake River system and Redfish Lake. Survival has been down 30 percent around

Lower Granite Dam from release, and less than five percent down to Bonneville Dam. They tracked down the cause to differences in water hardness between the rearing area and the release site. They did acclimation experiments to alleviate the stress on the fish. They have produced some positive results. Fish survival in 2018 has increased to almost 70 percent at Lower Granite Dam, and up to 45 percent at Bonneville Dam. The plan for 2019 is to continue to acclimate the fish.

5. Lynn Palensky, program development manager, updated the committee on the project review process. There's a research review of 27 projects. Staff will summarize the policy issues and they are looking for a final endgame in October. Palensky also introduced a project review process for all of the projects in the Basin — outlining a two-year draft schedule for the categorical review. That was brought up with the managers at the regional forum and the schedule was approved.
6. Tony Grover, Fish and Wildlife Division director, provided an update on emerging priorities. There have been many successes, including long-term maintenance, adaptive management, predator control, investigating blocked-area passage, and sturgeon and lamprey. There are also sub-basin plans and floodplain restoration. There was a \$118 million investment in the program for habitat restoration. Someone mentioned that they are “emerged” priorities rather than emerging, Member Norman said.

Power Committee

Council Member and Power Committee Chair Tim Baker reported on four items:

1. Council staff examined energy efficiency to determine if the region is saving the amount claimed. Staff estimated what the energy demand would have been in 2015 if energy efficiency was kept at 1990 levels. If the regional economy had been held to same level of usage, regional loads would be about 14,000 aMW higher than they were in 2015. Staff showed that 58 percent of the reduction is due to a structural change in the economy, but that still leaves 42 percent of the savings resulting from energy-efficiency programs. Overall, the numbers appear to support the Council's energy-efficiency savings claims.
2. BPA said it has agreed to two, five-year power purchase agreements with PGE to fulfill a projected shortfall in capacity for the Portland-based utility. The contracts begin in 2021, following the closure of the Boardman coal plant. BPA will offer to sell 200 MW of excess hydropower generated the FCRPS.
3. As part of the upcoming Mid-Term Assessment, staff is updating resource capital costs. Last month, they did wind and solar. This month, staff reported on natural gas generation, specifically combined cycle combustion, single cycle combustion and reciprocating engine technologies. These resource costs are used by utilities in their resource planning activities. Generally, prices were stable or decreasing

for the three natural gas technologies.

4. A survey of cannabis production in 2018 put electricity demand at 112 aMW. The Seventh Power Plan estimated a high range of 110 aMW. Staff reported that demand could be “higher” if producers grew plants exclusively indoors instead of growing outdoors. Member Baker said there are hopes of achieving greater energy savings in this sector through new lighting technologies.

Public Affairs

Council Member and Power Committee Chair Bill Booth reported on two items:

1. Invitations have gone out for the August Congressional tour. The announcement that the U.S. Senate is going to work through the August recess could create some conflicts, but a lot of the staff intimated that they’ll be coming anyway.

He mentioned that a lot of work has been done on the website and that the committee would meet later today.

2. Members Devlin, Norman and Booth, and Idaho staff member Jeff Allen, went to Washington, D.C., last week to show regionwide support for a more aggressive program to deal with sea lion predation. Members of the Yakama Tribe came, as did Jamie Pinkham with CRITFC. For the first time in memory we had good, regionwide representation, Member Booth said. They’ve worked on this for 11 years. They split into three teams and met with the different state teams. Each had a tribal member. They were very well received. This issue is finally on the front burner in both chambers. Booth thanked Pinkham and Charles Hudson, who also have been working this issue for a long time. They had 25 meetings in two days. The House held a hearing on HR 2083 and Member Norman testified on it before the House Natural Resource Committee. A bill was marked up and passed out of committee. Leadership in the House should move it forward and that it will pass the House. The main provision in the bill is it would allow relaxed requirements for identifying individual pinnipeds. This bill has made it through the house before. The issue has been in the Senate. Senator Rich of Idaho has introduced SB 1702. For the first time, we’re seeing some support from the bill among the Northwest Democrats. The Council has played a part in moving this forward over time. Those Congressional tours help build relationships between other staff members, Booth said.

Member Norman thanked the Public Affairs staff for the brochure they prepared, the letters from governors, the summary on what the problem is and why the current approach isn’t effective. Up to 43 percent of adult spring Chinook are being eaten by sea lions. Both Republicans and Democrats have a desire to support legislation and to come up with a version of the bill that they can all support.

Member Devlin said the brochure was done very well and was well received. He

met with all Oregon Congressional offices, except for Rep. Blumenauer's. They were all supportive and willing to look at it. Three senator staffs were talking together. They also talked with the Democratic staff for House Natural Resources Committee, which went better than anticipated.

Booth said it's still tough sledding in the Senate. We're running up against time constraints. If we're not done by the summer recess, or by September, it's probably not going to happen. The next step is a letter to the Senate committee when the time is right. Jeff Allen and John Harrison put a lot of time work into the brochure.

Member Yost commended the Members and staff who went back. He said Congress should be told that we're a little farther west than Columbus or Des Moines.

1. Presentation on Indian Treaty Rights and Intersection with the Northwest Power Act

Laura Robinson, program liaison coordinator, introduced Charles "Jody" Calica, vice chair, Warm Springs Tribal Council; and John Ogan, legal counsel for the Warm Springs Tribe. John Shurts, general counsel for the Council, also joined the panel.

Calica provided a history of the Warm Springs Treaty of 1855, calling it a peacefully negotiated treaty of equals. He said the tribes ceded 10 million acres in exchange for the 640,000 acres of the current reservation. He described the reservation's geographic boundaries. He said the Warm Springs people are related to the Yakama, Umatilla and Nez Perce in the plateau area, and there's a connection to the Coastal tribes and the Paiutes. The lands of interest are located in seven western states and parts of British Columbia and Alberta. The 640,000 acres of the current reservation is for the exclusive use of our people, he said. The reservation is not checkerboarded. It is 99 percent owned and occupied by the tribes. It is exempt from Public Law 280, meaning that there is no state jurisdiction. Calica read the following quote from their treaty:

The treaties expressly provide: "That the exclusive right of taking fish in the streams running through and bordering said reservation is hereby secured to said Indians; and at all other usual and accustomed stations, in common with the citizens of the United States [or Territory] . . ."

Looking at the treaty between the U.S. and Canada, it is sovereign to sovereign and it ended up at loggerheads, he said. In the Columbia River Treaty, they are struggling to find some place for ecological function, which they regard as very important. They also have continuing interest in jurisdiction in terms of Warm Springs and Portland General Electric at the Pelton Round Butte Dam. Oregon objected to the creation of that project and that went to the Supreme Court, which determined it was not on public lands, but on the reservation. They used the Treaty in their water rights settlement agreement.

Calica said their power of sovereignty has been exercised. In 1855, the Warm Springs and Wasco people entered into an agreement with the U.S. to exercise trust duties. He spoke about the trust responsibilities.

He said the members of the Confederated Tribes declare their natural sovereignty and absolute right to govern their own destiny and resources free from outside interference. This sovereignty extends to tribal off-reservation rights. It includes custom grounds, and sites for burial, hunting and grazing. They should be protected absolutely and forever.

To discuss the relationship of the treaties to the NW Power Planning Act, Calica turned the presentation over to John Ogan.

Ogan said this presentation came out of a meeting the Warm Springs tribal members had with Members Ferrioli and Devlin when they first joined the Council. Some of the things discussed about the treaty will apply to some of the other treaty tribes. Ogan then expounded on what courts have said over the years about what the 1855 treaty means.

Ogan reviewed a map of the Columbia River Basin and the lands that are controlled by the four tribes. He pointed out the ceded lands. In the 1855 Stevens and Palmer treaties, the aim was to clear aboriginal titles to open them for settlement. Congress got behind the eight ball when it came to the Northwest tribes. In 1850, Congress passed the Donation Land Act, which gave land to settlers, so they needed to negotiate and clear title to the land they promised.

The Warm Springs treaty expressly provides that the tribe has the exclusive right to take fish in stream running through and bordering the reservation, and all their usual accustomed fishing stations. Ogan expanded on where courts have said that the tribe can fish, which can be lands off the reservations or outside of the ceded lands. It applies to all fish that are destined to pass these fishing areas, he said.

In the mid-1980s, the court clarified that fish produced by hatcheries do count as treaty rights fish. Treaty rights are property rights and, as such, are compensable. It's a right of access, use and harvest. It includes the right to have fish available for harvest. It's a protective, affirmative right, Ogan said. The fishery also has been described as under the court's protection.

Yesterday, the U.S. Supreme Court affirmed a Ninth Circuit Court ruling that the treaty fishing rights language not only includes the right to harvest whatever fish might be available, but the treaty right includes having fish available to harvest. This is significant. The dimensions are yet to be determined. For example, the Warm Springs is now in litigation with Union Pacific Railroad on where a track extends along the Columbia River near the site of an oil spill. One of the issues is protecting fish habitat.

Ogan mentioned other court filings and possible outcomes of the Ninth Circuit ruling. He said in 1980, when the Northwest Power Act was enacted, it gave the states and the tribes another tool to address habitat problems though the Northwest Power and

Planning Council. The Northwest Power Act isn't perfect, Ogan said, but it has withstood the test of time and is the most optimistic piece of legislation that Congress has even enacted. The Council as an institution has served the region well, and he said he was lucky to have worked for the Council for seven years.

Shurts said that both *U.S. v Oregon* and *U.S. v Washington* are both state actions that deal with treaty rights. He asked, would it be different if the federal government took action, or would it be different if a public or private party took action?

Ogan replied that his opinion is that the application of the treaty right that allows the enjoining of habitat-damaging activities is mostly extended to the federal government. *U.S. v. Oregon* might not be the forum, for something in the Columbia, but if an activity is federally funded with impacts on treaty fisheries that were demonstrable, that is actionable against the federal government. Extending that to private land owners is problematic. It's probably more a tort or nuisance with a private party.

Ogan discussed the conflicts leading to *U.S. v. Oregon*. In the early 1900s, Congress gave states the rights to enter into compacts. In 1957, the Columbia River Compact started. States favored commercial fisheries over tribal fisheries. It became a lower river catch versus an upper river catch. The federal government felt that the tribes weren't getting a fair shake and sought to enforce regulations in state court. In 1968, a filing was made by the U.S. against the State of Oregon to enforce the off-reservation treaty rights. Tribes intervened to become a part of the case, as did Washington and Idaho. In 1969, Judge Belloni ruled that the tribes have a right to a fair share of the available harvest and the state is limited in its power to regulate the exercise of the Indians' federal treaty rights. Further, the state may regulate treaty fisheries only when reasonable and necessary for conservation, the state's conservation regulations must not discriminate against the Indians and must be the least restrictive means.

This is also known as the "conservation principle," Shurts added.

That's shorthand for fisheries being managed for the weakest stock, Ogan said. These days it's mostly the federal government that asks both states and tribes to fish less. But the states and tribes tell the feds to look at its regulations, and things they could be doing, to improve returns before going to the harvesters.

Reading through his slides, Ogan said Judge Belloni also found:

- That it is patently unfair to manage the Columbia Basin salmon such that few fish survive to reach the tribes' usual and accustomed fishing places.
- That the tribes have an absolute right to that fishery and thus are entitled to a fair share of the fish produced by the Columbia River system.
- That in regulating tribal fisheries for conservation purposes, the protection of treaty fishing rights must be an objective co-equal with regulation for other users of the fishery resource.

Ogan also discussed the history of the 50/50 rule for fish allocation and its application. A provision of a 1974 court decision reads that the Indian treaty fishermen are entitled to have the opportunity to take up to 50 percent of the spring Chinook run destined to reach the tribes' usual and accustomed grounds and stations.

He added that a unique aspect of the treaty is Alaska has to be accountable for the Columbia River stocks when the fish migrate up there. A lot of things intercept fish that have to be accounted for in the allocations. He said that Warm Springs members also have been working very hard with states to figure out the sea lion problem and FCRIP survival.

Summarizing the treaty rights concepts in the Northwest Power Act, Ogan said:

- Treaty fishing rights are federal property rights;
- There's a right to harvest up to 50 percent (counting prior interceptions against non-treaty share);
- Tribes have the right to co-manage with states and self-regulate their fisheries; and
- Treaty rights includes the right to harvestable populations; tribes may enjoin state actions that imperil those.

Regarding the Fish and Wildlife Amendment Process, Ogan shared some language from the Northwest Power Act:

- Program measures must be consistent with legal rights of tribes.
- Program measures to complement existing and future activities of federal and state wildlife agencies and tribes. Tribes are treated one and the same as wildlife agencies.
- Program measures based on best available scientific knowledge.
- The Council is to consult with agencies and tribes during the amendment process.
- Inconsistent recommendations addressed with due weight to those of agencies and tribes.
- Decisions not to include agency/tribal recommendations requires written findings — there's a limited basis for rejection.

The current and future activities of the Warm Springs Tribe include:

- Continued lamprey protection and restoration;
- They want to see wildlife and non-ESA species valued and invested in;
- They're seeking more-effective implementation of the program to maximize investment on the ground;
- They want to collaborate on hydro operations that optimize a balance among resource benefit responsiveness to Court, minimizes negative economic consequences on BPA and region with targeted flexibility; and
- Focus on the Columbia River System Operations Review and Columbia River Treaty renegotiations as key places to shape the future of the Columbia.

Shurts said *U.S. v. Oregon* is no more. Is it coming back?

Ogan said that Judge Belloni left it open, because we can't know what issues will be coming up. They finished the 10-year agreement and, as parties, they asked Court to enter into an order of the Court. After discussing some of the legal steps they went through, he said they don't know how open the case is. They may have to do some procedural, jurisdictional things to get to a management agreement.

Member Karier said that in one of last slides, one of the priorities listed is to seek more-efficient implementation to maximize investment in biological benefits. He asked if they could elaborate on what the tribe is doing in that regard.

Ogan said it looks internally and focuses on BPA-funded projects. They're looking for efficiencies to reduce administrative costs and are looking to BPA and the Council to look at procedures we can identify in implementing projects. He said they might have a project scientifically reviewed and ready to go, but given the scale, we spend 25 percent of the funds doing reporting, overhead, coordination with BPA and the Council. They are working with Bryan Mercier to brainstorm ideas on how to more efficiently use the BPA dollar. He said they constantly deal with new reporting requirements or duplicate requirements.

Member Norman said that for the record, he was not a part of the 1957 agreement. He asked Ogan summarize the role of the compact change after the 1968 *U.S. v Oregon* decision from a regulatory standpoint, with tribes setting regulations for non-Indian buyers. Ogan said that after federal courts said the tribes are self-regulating, the role of the compact was approving or disapproving the treaty fisheries per se, it was ensuring that commercial fish buyers that the tribes may sell to (many not Indian) had the authority to buy what was taken in the treaty fisheries. It's where co-management on the Columbia really started. Compacts today are much less exciting or adversarial than in 1961.

Member Devlin said he's familiar with the tribes in Oregon. He noted that Ogan is a former employee of the Council. You have specific Treaty rights, he said. We constantly deal with issues of tribes with treaty rights and those who were terminated and then restored. Some participated in a treaty process, but never ratified. How do you approach these issues and resolve these differences? It seems like dangerous ground.

Calica replied that he knows of those tribes. They have a big book of all the treaties in the U.S. In some cases, you have tribes with no off-reservation rights and then they were terminated, and that completely wiped out any off-reservation rights. The question is what is in the restoration act. It's still a question, in my mind you have a lot to prove. Not to us, but to the U.S. in terms of what their rights are.

Ogan said you can't belittle the injustice done to a tribe to negotiate a treaty and then fail to ratify it. What does one do with that? At a policy level, a morality or legal level? It's

the difference between an interest and a legal right. As you're working with competing claims, morality, history and culture, but when it gets down to competing claims, the law is clear.

It's an ongoing area of conflict in the states, Devlin remarked.

Member Ferrioli said it's a murky public policy process. In his 20 years of experience, when you encountered a tribe, you've encountered a tribe. You can't generalize and have to base it on the facts presented. The thing that's least understood in public policy is the concept of reservation, ceded and the interplay between them. The possessory right was relinquished with the ceding. When you say reservation, most people think of real estate. But what was reserved — the usual and customary lifeways and patterns, gathering, fishing and hunting access — that whole panoply of reservation is least understood by citizens in Oregon. When you ask yourself, what are ceded lands, you can say every square mile, every acre of Oregon, was owned by one point in time by aboriginal peoples, by first citizens. The land extends up to British Columbia. That's not what most people understand, he said.

Warm Springs Tribal Elder Bruce Jim said what Member Ferrioli brought up is important. What the elders retained, the wording, that's important. He described how the elders passed on history and knowledge to the younger generation. With that came the laws that were strictly obeyed. There was strife and stress, but trading among people supplemented those times. He described times of famine, hard times, disasters and loss of territory. As a Council, Members have to realize that the benefits of the treaty were meant for everybody not just to native people. The benefits of the oceans and tributaries, to sports, commercial and recreational. Treaty rights and the protection of habitat, water, fish and wildlife were to benefit all user groups. That's what's missing from this. He said they had a meeting in John Day with Member Ferrioli and he's glad they called that meeting. This is important wording to our people and how we understand the laws of the land. When you talk about reserved rights and ceded areas, they became retained areas and retained rights to those areas. The Treaty of 1855 means that we're here to protect these resources for all people. We're caretakers of this land, handed down by the Creator. Our words will be strong in the courts and with the states of Oregon, Washington and Idaho.

Calica closed saying he appreciated the opportunity to come before the Council. What we're talking about is a very sacred matter of sovereignty and spirituality.

- 2. Presentation on Bonneville's Resource Program**
- 3. Presentation on Bonneville's Energy Efficiency Goals and Integrated Program Review process**

Ben Kujala, Power Division director, introduced Kim Thompson, BPA's vice president of energy efficiency; and Rob Petty, BPA's manager of power forecasting and planning.

Thompson summarized BPA's energy efficiency goal-setting and the background on what got us to this point. A couple of years ago, BPA conducted its Focus 2028 initiative. There was a special focus on energy efficiency to look at how the agency develops its energy efficiency goal. They identified the BPA Resource Program as a likely source of information to inform that, and to make sure that their energy efficiency investments are tied to the long-term needs of BPA and their customers. She stated that a robust investment in energy efficiency remains a cost-effective way to meet BPA's power needs into the future.

Petty gave a high-level overview of Bonneville's Resource Program. It begins with a forecast and looks at resources and determines needs. Reading from the slide, he said the Resource Program:

- Begins with a forecast of BPA load obligations and existing resources and then determines needs;
- Identifies and evaluates potential solutions to meeting the needs (energy efficiency, demand response, wind, solar, natural gas plants, etc.); and
- Outlines potential strategies for meeting those needs.

It's not a decision-making or policy document. Nor is it a requirement of regulating entities. It's voluntary.

The Resource Program Overview is used to measure needs for the federal system. The end-use load forecast and BPA resource forecast are combined to come up with the needs assessment. Other factors include a conservation potential assessment, demand response, traditional generating resources, wholesale market price forecast and wholesale market reliance. Those supply options are fed into a model and an optimization process to come up with a needs assessment.

The analysis showed that the agency is energy limited with annual energy deficits beginning in fiscal year 2021 and growing to 850 aMW by 2039. The biggest forecasted deficits occur in the winter with smaller deficits in the early spring and late summer.

BPA's needs assessment forecasts a capacity deficit in late summer 2025, but it is not forecasting a winter capacity deficit through 2039. Currently, BPA is not forecasting the need for additional balancing reserves beyond what the federal system can provide.

Member Yost asked if the shortfall in the second half of August is for energy and capacity, or just energy. Both, Petty replied. And the second week of April is just energy. The bigger driver is in January.

It's driven by winter and summer needs, Petty said. They have the machinery, they're just fuel limited. They don't have the water to get through the system to meet their winter and summer needs.

Petty described the optimization model as a sausage grinder to get resource portfolios. The model starts with the least-cost solution to meeting energy and capacity needs. The model then assigns variations in costs and risks in each portfolio. For Bonneville, that risk is how much it relies on the wholesale market and what the wholesale price is. Wholesale costs are low and are forecasted to remain low. Market costs projected to be low as well.

He described the different portfolio options to reduce the variability in Bonneville's costs. At a certain point, they're spending money and not getting a reduction in variability, he said.

The portfolios focus on three resources: 1. Maximum monthly market purchases (they occur in January when the need is greatest). 2. Energy efficiency acquired and highest energy efficiency cost Bundle; and 2. Demand response acquired.

The model relies on the market less and buys more fixed market resources, Petty explained.

Member Baker asked if the model is indifferent to any one of the three points? Petty said it's about meeting our needs. The portfolio cost is higher, but the risk is lower.

Member Yost asked if demand response is just summer and not winter. Petty replied they didn't see capacity needs in the winter.

Petty discussed how energy efficiency helps meet BPA's energy needs. He discussed load hour energy needs. In September, there's 800 MW of need. In bad conditions, they still are in surplus conditions in the spring months. In portfolio 2, energy efficiency fills in. The model shows how much of the need is being met with energy efficiency and market purchases.

In summary, Petty said that BPA can continue to meet its obligations with a mix of energy efficiency, demand response and market purchases through 2039. He said that energy efficiency is a significant component of the agency's least-cost acquisition portfolio.

Thompson said the Seventh Power Plan identified the energy efficiency goal that BPA is trying to achieve. They looked at three mechanisms to achieve energy efficiency savings: market transformation, momentum savings. After those two, they look at programmatic savings, which have a 70/30 split between EEI funded and self-funded.

BPA's 2016 Energy Efficiency Action Plan projected achieving a total of 581 aMW of savings towards the Seventh Power Plan goal. Of that, 352 aMW was expected to come through programmatic savings. However, over the past two years, the agency exceeded its programmatic savings goals, which resulted in fewer programmatic savings needed in 2020 and 2021 to meet the Action Plan goal.

Looking at 2017 achievements, they saw a lighting-heavy program, but resource program output is heavy on HVAC, electronics and industrial.

Member Baker asked when the Resource Program provides different outputs to meet BPA's needs, which is most valuable to BPA? Thompson replied that the HVAC savings contribute more in winter months when they have that energy need. The whole idea is if we can target our savings that delivers the best value to the needs we're trying to meet, that's the best approach we can take, she said.

Therefore, for 2020-2021, the agency is proposing to keep its energy-efficiency budget the same as it identified in its action planning process (\$134 million), but it will begin introducing some program portfolio shifts. These shifts will be skewed toward measures that provide the highest benefit to BPA, Thompson said, and come at a higher cost than what the agency has been implementing. The estimate is between 74-101 aMW in programmatic savings. BPA will begin its regional engagement on these potential program changes this fall.

Looking at demand response, Thompson said it plays a role in meeting BPA's least-cost needs. Up until now, the agency has worked on how to do demand response and what's required, she said. Going forward, demand response will be tied to the resource program, non-wires analysis and the integrated planning that's underway. She said they still need to design a program that would deliver summer capacity, set the price for it and provide an implementation plan.

Member Baker said when you do something like energy efficiency, he sees a direct connection to providing opportunity to generate more revenues. How does that get generated into this model? It's not just a cost consideration.

Petty said it's more steps. First, we ensure we can meet our needs, then we look at our inventory to enhance our revenues, he said. It's a different part of our business. We haven't necessarily intertwined the two, we're focusing now on meeting our needs. Thompson said the model chose all energy efficiency up to market price. The model looks first at meeting our needs, and when we don't have a need it will sell that off at the market price, Petty added, but it only does it up to meeting our needs. We don't go beyond that.

Member Devlin said that his understanding is that in the five-year plan, there's an allocation between publics and IOUs. What investments in January will help you January? Thompson replied that HVAC generally has shaping tied to seasonal temperatures. It does shape the savings into that time that we need.

Member Karier said the model took all energy efficiency up to market prices, but the PGE contract was on market prices or above. But if it's above, then that would not be the right calculation, is that correct? If you could sell additional capacity at more than market prices for energy, then using market pricing in your model is understating the need for energy efficiency. Thompson replied that this analysis was used to look at

energy efficiency at a level sufficient to meet the administrator's obligations — not at a level to optimize potential cost structure and create potential, additional revenue opportunities. The obligation under the resource program is to ensure adequate power for BPA.

Member Karier said he heard Petty say that that's another calculation that they plan to do. You need to check that and see if that would actually reduce customer rates even more, he said.

Member Yost said that Petty explained that this approach is the first step on energy efficiency, and anything BPA does to increase revenues is a second step and they're not there yet.

Petty said it's the third month in a row they've talked about the resource program process, and probably the last. He thanked the Power Division staff for their help.

4. Briefing on Bonneville Power Administration proposed reductions to Fish and Wildlife Expenditures, FY 2019-2021

The panel consisted of Elliot Mainzer, Bonneville administrator; Lorri Bodi, Bonneville vice president of environment, fish and wildlife; and Bryan Mercier, Bonneville's fish and wildlife division executive manager.

Mainzer seconded the comments that Rob Petty made on collaborating with Council staff. He also mentioned that Lorri Bodi has announced her retirement from Bonneville.

Mainzer said that BPA's Strategic Plan has become the central organizing concept around what they're trying to accomplish at Bonneville. The mission of the organization — and its full array of public responsibilities — is so important. He said he is committed to sustaining BPA's role as that engine of economic prosperity and environmental sustainability. If we're going to meet our responsibilities, we have to do that through a commercially successful business, he said. Our trajectory of rate increases and programmatic cost increases isn't sustainable. He said the agency is at a point where the "rubber is meeting the road" and they have to make difficult decisions to start bending the cost curve. They released the Integrated Program Review for 2020-2021 last Friday, which outlines BPA's efforts to keep programmatic costs at or below the rate of inflation over the next 10 years.

Mainzer said that with regard to its Fish and Wildlife Program, the agency has to make sure that it is "maximizing investments based on biological value, cost effectiveness, prior implementation performance and ultimately a connection to mitigating for effects from the FCRPS."

He said some of the conversations will be difficult because folks are working hard, but they have to make some tough decisions. They have some constructive relationships and there are opportunities for dialogue. He stressed BPA's relationships with the tribes

and how important they take this responsibility. I see this as a shared responsibility, he said, to provide the many benefits and value of fish and wildlife, and also be able to have a sustainable BPA to accomplish this in the years to come. It's not easy, but I have a lot of trust and confidence in the relationships we've established to get us to a good outcome, he said.

Lorri Bodi said it's been a pleasure to work with the Council. She has been working on fish and wildlife conservation since the passage of the Power Act. She has served as BPA's vice president for environment, fish and wildlife for the past seven years. She said they have been managing the program below the rate of inflation, and they have worked with the Corps and Bureau to reduce costs. The aim is to shrink the amount that goes into research, monitoring and evaluation (M&E), to reduce administrative costs, and focus on efforts on the ground to get more bang for the buck. We've done that without much adverse effect at all, we've done it with great success. The bottom line is that we leave a legacy of accomplishments together, whether it's habitat work, innovative hatchery work or hydro developments we've put together, she said.

Bryan Mercier expressed appreciation to Bodi and Mainzer for attending. He discussed BPA's Strategic Direction:

There are three drivers: Strengthen BPA's financial health, maintain costs at or below inflation, and sources of uncertainty. The sources of uncertainty include:

- Proposed Spill Surcharge (\$10M surcharge, \$20M cost reductions)
- 2018 NOAA BiOp and Proposed Action
- 2008 Fish Accords

Mercier outlined the history of the Fish and Wildlife Program's expense and capital budget trends. It showed the growth of the program and what has been done in terms of cost management. He shared a slide showing the total annual average cost of BPA's fish and wildlife actions.

The factors and considerations informing decisions going forward include biological effectiveness, implementation performance and incentivize cost share. "Elliot and I have had conversations with other nonprofits so ratepayers aren't the only source of funding for these efforts," Mercier said. They continue to look for ways to collaborate. For example, the Council has been effective in addressing predators and pinnipeds.

The project review approach is about trying to squeeze efficiencies out of projects BPA funds. We'll be firm, he said. We'll need to see demonstrable data to change our minds, but we have a pretty good idea of the steps to take.

Program areas of emphasis will be projects that are on the ground, have an FCRPS nexus, lend themselves to legal compliance, and which demonstrate effective and efficient performance.

Program areas for potential reduction/efficiencies include:

- Research, monitoring and evaluation
- Data management
- Administrative “belt tightening”
- Elimination of duplication
- Weak FCRPS nexus
- Project close-out or poor performance
- Rightsizing/cost share

Mercier outlined proposed reductions for Fiscal Year 2019:

1. Partner portfolios: ~\$8 million (tribes, states, soil and water conservation districts, and watershed councils)
2. Program portfolio ~\$18 million (programmatic priorities and areas of emphasis)
3. Federal portfolio ~\$4 million BPA overhead and internal costs, Lower Snake River Compensation Plan (LSRCP). Reductions in workforce size, closed library and aircraft reductions. Working with partners and the Fish and Wildlife services to make reductions.

Mercier is beginning talks with partners this week and will be working with them over the coming months. He discussed the Fiscal Year 2019 Start of year budgets timeline. He believes these budgets will work without impacting BPA’s ability to deliver results.

Bodi said the numbers could be adjusted after conversations with the different project managers. She believes they have been careful to find cost savings to pick those items that won’t jeopardize priorities, our biological objectives, legal compliance and emphasis on making progress on the ground.

Member Booth observed that BPA is looking at about \$30 million in savings. Which pot is that from? he asked. Mercier said it’s out of the direct-funded program. The baseline is \$277 million. It does not include capital, but it does include the LSRCP, so, it’s roughly 10 percent.

Member Devlin said he read Elliot’s letter and understands BPA’s fiscal position. There was a court decision in 1994 or 1995 that the Council needs to give great deference to the tribes, and state and federal agencies charged with fish and wildlife issues. When trying to determine the biological efficacy of the programs, is the process inclusive enough to take other entities into consideration? His understanding is that expenditures need to be consistent with the plan. You could spend too much on M&E, or you could spend too little and not determine the impact of what you’re doing. How much of the process has included collaboration with other entities?

Mercier said it’s a conversation they’re having now, but it has been ongoing with their partners to find efficiencies. Building on that relationship, they have identified some projects that aren’t progressing as they hoped. If the value of the M&E isn’t clear, then

those are the aspects they propose to pause on. He said they'll be open and responsive to their partners. If we have it wrong, we'll admit that we're wrong, he said, but it shouldn't affect our ability to meet our obligations both for endangered species or the Northwest Power Act.

Bodi said BPA has a \$300 million program, the largest national ecosystem restoration program in the nation. It has been consistent over the years. We are not doing violence to the what of what we want to accomplish, but the how, she said. Most programs will have M&E in the range of 20–25 percent, and we're well above that. The time is right. We have been gradually putting more emphasis on the M&E portion of our work. At BPA, we don't need information good enough for scientific publications. We can take a little bit of scrutiny around what we've developed. We have a lot of duplication on M&E and habitat projects. Some partners are more efficient than we are.

Member Baker said looking at the next decade, how do you see future practices changing?

Mercier said that John Ogan touched on this – they're trying to work with partners to see what efficiencies we can have in the program. Sometimes those requirements may not add a ton of value. We can put more of that money into on-the-ground efforts. My goal is to get us on firm economic footing. We don't want to reduce programs that do good work for fish.

Mainzer said the last 20 odd years have been extraordinarily controversial. "One of my hopes is to try and find a way to come together in the four states, with the tribes, get to a stable river process and find a long-term strategy. BPA has an obligation and a capacity to sustain a significant Fish and Wildlife Program for years to come. But I think it's a finite capacity. As we work with other federal agencies, states, tribes, and members of our congressional delegation, and look at how resources are allocated, we'll think about some rebalancing. It doesn't have to be massive rebalancing, but it's necessary."

Mainzer said that Member Norman been very valuable. Collaboration and alignment is important in making some allocation decisions.

Bodi added that the fundamentals of BPA's program have remained the same for listed and unlisted fish. There's been an important emphasis on wildlife with transitions to stewardship, and emerging emphasis on sturgeon and lamprey. We're looking for opportunities for cultural fisheries, such as the projects above Grand Coulee and Chief Joseph. I don't see those things changing in 10 years, she said.

Member Norman said they had a regional coordination meeting. Mercier did a good job laying out the case to the managers. My sense was that people understand the connection between Bonneville's financial stability and the stability of the Fish and Wildlife Program. Part of that comes from the pledge for dialogue. He asked Mercier to go over the timeline for that dialogue.

Mercier said they'll start sharing their thoughts this week. Rather than try to negotiate the entire year, they'll get to work in Q1 ahead of those contracts to make the right call. We'll expect folks to help us find efficiencies, he said. We'll be flexible and open. We have a hundred different partners — some have one contract and others have dozens. We'll have lots of conversations this summer. It's important to me that we get this right, he said.

Norman congratulated Lorri Bodi on her impending retirement. She addressed lots of hard issues and was very pragmatic. You'll be missed, he said.

Ferrioli expressed appreciation to Mainzer and Mercier for helping people appreciate what we're facing. The beatings will continue until the morale improves, he said. I felt a lot of fear and anxiety in the room, but at the 30,000-foot level, I don't know of too many programs that can't sustain 10 percent in cuts.

I found out what a nonessential program is, Ferrioli continued. It's the other guy's. I've found that the invitation to put your own chicken on the chopping block is rarely volunteered. We'll have to make some tough choices. One of the first pieces of input I got is that the M&E is too complicated and the data collected is data neglected in some cases. So, the question is whether we can get to the efficiencies to move elsewhere on the ground. These are dollars we won't have available. There's going to be a net loss somewhere. It will be doable, but not easy. We need to take responsibility for the layers we put on programs – things that we could simplify. He also bid Bodi a fond farewell.

Member Yost said to Bodi, "I won't cry as much when you leave as when they hired you. When everyone quits whining and gets down to work that they can assist in this reduction that is so necessary to preserve the goose that lays the golden eggs. When we're looking at \$300 million a year, everyone can sacrifice a little bit."

The meeting recessed at 5:00 p.m.

Wednesday, June 13

Council Chair Jim Yost brought the meeting to order at 9:00 a.m.

5. Council decision on project review: Proposal #2017-004-00, *Northern Pike Suppression and Monitoring Plan*

Mark Fritsch introduced the recommendation by the Fish and Wildlife committee to approve the *Northern Pike Suppression and Monitoring Plan proposal*. He introduced Bret Nigh and Holly McLeland, Colville Confederated Tribes; Brent Nichols, Spokane Tribe; Michael Garrity, Washington Department of Fish and Wildlife; and Justin Bush, Washington Invasive Species Council.

Brief history on action taken in 2015-16 through the BOG to support suppression efforts in Lake Roosevelt. They requested full proposal from managers in 2017. Prior, funds went to a project that didn't address full suppression. This past April, they received a favorable ISRP review of the proposal with comments on strengthening it. Last month, they received support from the Fish and Wildlife Committee.

Nichols appreciates the Council identifying northern pike as a threat to the area. This proposal provides the tools to address the threat. Besides BPA, they are also seeking funds from the Mid-C PUDs, Bureau of Indian Affairs, National Park Service and Bureau of Reclamation.

Fritsch said between the Committee action, they received letters from Spokane Natural Resources and from Washington Surfboard. Justin Bush spoke on behalf of Steve Martin in the Washington Governor's Office. It's a critical moment to prevent the impact of northern Pike. He appreciates the staff recommendation. The threat of pike downstream threatens fish returns and harvest worth more than \$1 billion annually. He appreciates managers making this a priority. All stakeholders are counting on co-managers to be successful in managing this program.

Nichols said they have been working together to develop a pike forum and to develop a rapid response plan for when pike begin to move downstream.

Member Karier said he's a strong supporter of this proposal. Northern pike is a dangerous invasive species. He's glad the Spokane Tribe and WDFW have stepped up to hit this hard. Funding is high now, but then it could be lower. Then we need to look upstream.

Member Norman asked Garrity to elaborate on their support for the program. Garrity echoed what others have said and what Member Karier said.

Member Baker asked about the timeline of the funding. Implementation starts in Fiscal Year 2019, Fritsch said.

Northwest Power and Conservation Council Motion to Support Proposal #2017-004-00, Northern Pike Suppression and Monitoring, for Implementation Beginning in Fiscal Year 2019, Applying to Lake Roosevelt Suppression Efforts, with ISRP Qualifications Regarding Changes to Methods, Reporting and Other Conditions Addressed in Contracting.

Member Ferrioli moved that the Council recommend that Bonneville support implementation of the northern pike suppression efforts presented as part of Project No. #2017-004-00, Northern Pike Suppression and Monitoring, for implementation beginning in Fiscal Year 2019, with ISRP qualifications regarding changes to methods, reporting and other conditions addressed in contracting - as presented by staff and recommended by the Fish and Wildlife Committee.

Member Norman second.

Member Baker said he has no doubts on the importance of this project and the impacts of northern pike. I often read ISRP reports and occasionally think they ask a lot of questions, sometimes ask for too much information and things that can't be ascertained, he said. This time, they were skeptical of the long-term efficacy of this project. For me, at a time when we heard from the administrator on funding and challenges, I have reservations about making a long-term, multiyear commitment. The ISRP wanted annual reports. What we're approving with this motion is a blanket, four-year approval of funding or making conditional on results we see after the first year. I'd be more comfortable with the latter. Have a group come back to report on the program. This spring, I went through intense grilling from the Montana Legislature on why I wouldn't ask BPA for quagga funding. I said, because there isn't any money.

Member Devlin said he was looking at a proposed action and that has a lot of caveats. He mentioned some of the reservations the ISRP has and requests for reporting. I too believe if we're going to review projects, this would be one of the highest priority, he said. One thing that might change is looking at new priorities. If that goes away, it makes it difficult when things like this come up. I'm comfortable with the motion as reflected in proposed action.

Member Booth said they had a lot of discussion on this in Committee. There are caveats. Its intent is that we would review it on an annual basis. It's not blanket funding for four years. The analysis says there's a healthy population that is reproducing in the lake. There's no need to look upstream now. There is a need for seed money. This can't be BPA-centric. It needs more. We're in season now and will vote for this. They assured us they will return regularly.

Member Norman said that Member Booth summed it up well. The sooner we can be proactive, the risk is further reduced. The report we had last summer is one level of suppression addressing fish in the lake. Another level addresses anadromous fish downstream. We're mindful on how to put together a project that addresses fish in Lake Roosevelt. We're encouraged that there is a widespread effort seeking other partners. There is recognition that this is a regional concern. Certainly, it has an attachment to the Fish and Wildlife Program and I'm encouraged this is getting more attention. Next month, we do have northern pike-focused forums, including one in late July.

Member Ferrioli said clearly the funds are going to be derived from reallocation. That needs to be disclosed, acknowledged and approved. If we're looking for an emerging priority, this is it. I appreciate the horns in the dilemma expressed by Baker. I find that we'll be on this again. But this is a house fire we need to respond to.

Motion approved without objection.

6. Briefing on Regional Technical Forum 2017 Annual Report

Jennifer Light, manager, Regional Technical Forum (RTF); and Garrett Herndon, assistant, RTF; briefed Council Members on the 2017 Annual Report.

Light credited Herndon for his work on the RTF and described the role of the RTF.

In 1996 Congress directed the Council and Bonneville to create a regional technical forum. Its focus is on regionally consistent evaluation standards for energy efficiency. The Council created the RTF in 1999.

Herndon discussed highlights from 2017 and progress in 2018:

Highlights from 2017

- Reviewing measure suite to determine the reliability of our capacity benefit estimates;
- Enhancing measure library in concert with market research; and
- Improving RTF transparency through new platforms.

Progress in 2018

- Development of new measures; and
- Ensuring symmetrical treatment of costs and benefits.

Light discussed the capacity contribution of efficiency. We already have guidelines on how we look at energy, she said. They developed a framework for developing load shapes. The public comment period ends July 6.

Light talked about the shifting nature of programs and flow of products. Most products and programs are targeted at end-use consumers. We know exactly where the product is going, she said. That's how we tailored our measures. But there's a need for upstream measures. That's where you're able to get more energy savings.

RTF enhanced its communications:

- Enhanced the website to provide access to RTF analysis;
- Created news items to highlight noteworthy measures or analysis; and
- Developed materials for communicating highly technical analysis to a broader audience.

Also worked with Conway social media to make some cool videos to look at key topics, such as, "what do you mean by baseline?"

The 2017 budget was 1.79 million — about all of it obligated to contracts. We spent about 95 percent, leaving \$117,000 unspent, Light said. All funding comes from BPA, region utilities and the Energy Trust.

New measures in 2018:

The RTF plans to provide a robust suite of measures in the region. During the last six months, most of the measures were new. They will continue to dig in and find efficiencies.

Light said they are working on having consistency in their analysis and more transparency in their work.

2018 Work Plan Status:

This year, \$315,000 is unallocated, but a lot of projects are lined up. They have five analysts contracted out. They have a set of commercial building models.

Member Booth said, as I look at your budget, it appears that the overhead is high. When you break this out, how much is going to new measures and creating new product? Light replied that over half the budget is the pure measure analysis. The regional coordination line includes improving technical analysis, load shape work and identifying research needs. A lot is related to improving reliability investments. Some members need support for transportation and time.

Member Ferrioli asked if there is a component of tool development aimed at multifamily housing, which seems resistant to retrofit investments? Is someone working on that? Light said the RTF has measures geared to look at it, but they don't do strategy and implementation. They could look at it through our small and rural subcommittee. One tool is developing building models in the commercial space. They don't have a model bigger than a low-rise. It doesn't address implementation barriers.

Member Ferrioli said he thinks there's an opportunity for someone there.

Member Norman said the biggest budget item is existing measure review. Is it pre- or post- implementation? Light said they give measures sunset dates. Some are five years and others one year. Most are probably post-implementation.

7. Presentation on Pacific Northwest Utilities Conference Committee Northwest Regional Forecast “The State of the NW Power System.”

Gillian Charles, energy policy analyst, introduced Shauna McReynolds, PNUCC’s executive director; and Tomas Morrissey, PNUCC’s senior policy analyst.

McReynolds talked about PNUCC as a forum for members to get together to discuss issues in common. It used to have large industrial power customers as members as well. Energy is not the sleepy industry it was years ago, she said.

The NW Regional Forecast is a longstanding tradition that goes back to 1954. It looks at utilities in the Columbia Basin area. The assumptions used are annual and monthly energy, peak loads and those are compared to the region’s resources. The forecast looks at normal weather, not extremes. Looking at demand-side management, the report uses utility forecasts. It looks at long-term contracts, hydropower generation and utility-owned generating resources. Unlike the loss of load probability, this is a barometer that shifts over time, it’s not a line in the sand.

We’re focused on peak load, McReynolds said. Back when the first plan was drafted, there was enough capacity and they didn’t even look at it. Now our focus is on peak load, she said. The message here is you have four forecasts starting with 2016. The winter load forecast is coming down over time and is flattening. On the summer peak side, it’s staying fairly constant. Air conditioning load continues to grow, particularly on the east side.

Not all utilities are the same. We get 25 utilities reporting individually as well as Bonneville, she said. Utility load growth varies by utility. In the top five utilities, such as Umatilla Electric, PNGC Power, Grant County PUD and Wasco County PUD, they have customers wanting to locate and add load. On the bearish side, such as Seattle City Light, it’s more about what’s going on with new codes and standards, where customers don’t use as much load.

Looking at energy efficiency, we asked utilities what they are counting on for the future. The best information is in the first few years of the forecast.

Looking at demand response, the report shows that winter is a couple hundred megawatts less than summer. Summer is irrigation, one of the most successful demand response programs utilities have experienced. During the winter, utilities haven’t been able to capture programs at the same level. My observation is that utilities are working rigorously to find options for demand response without the success they had hoped for, she said. The targets in the seventh plan aren’t aligned with what’s happening, but not for a lack of trying. There might be opportunities out there, but they might not be in a service territory of a utility that needs it, or an inability to capture that and get it to where it’s needed. Or, a customer decides not to participate after figuring out what it means. Finding the right balance with the right customers in the right location is a challenge. It plays out here in our forecasts going forward, she explained.

Member Booth asked if a graph was created with a 2016 base case. What's the forecast based on? Morrissey replied that all the data comes from the Council, the utilities and BPA. We ask them for their 10-year forecasts, he said.

Member Booth asked if they line up with where the Council is. Pretty well, Morrissey replied. McReynolds said they send out a data request for an annual check on what the utilities are anticipating.

Looking at the peak surplus/deficit, in 2021, the summer deficit of loads-to-resources is growing and the winter deficit is shrinking. In 2016, during the summer, there was a 1,200 MW surplus. Since, the need for power during the summer is growing, crossing into a deficit in 2021. In the winter, 3,000 MW need by 2021, but we're not in a panic mode, McReynolds said. The deficit isn't growing as fast as past forecasts.

Member Booth said this gets to his concerns as we shut down coal. We exceeded the 5 percent LOLP last year at 6 percent, he said. Do you see enough energy coming online, firm power, to handle summer? he asked. You're not alone, McReynolds replied. Those concerns are happening around resource planning.

Morrissey discussed future resources, committed and planned. Looking at the new resources firmly committed, it's a little thin. Looking at a slide, he said the capacity/PPA bar are utilities identifying the need for capacity resources. The remainder of the capacity bar could be something new. One gas peaking unit is a planned resource. There are new demand response numbers. There's not a lot of firm resource coming into the region, he said. It's the first time we've seen batteries popping into utility plans.

Member Booth said that if you look at the chart, the red doesn't add up. If you're looking at firm power, it looks like there's quite a deficit.

Morrissey said there are more retirements. We're about 30 months south of 2021. It's tough to build something thermal in that time period.

I would have expected new gas, Member Booth said. There are no new gas plants firmly committed in the Northwest, Morrissey replied.

Member Karier said slide 8 looks like a major deficit, but slide 7 deficits for the winter have lessened. Does that take into account the planned coal closure? Morrissey said the deficit in the winter has been smaller, despite the coal retirements. Once you get to 2021 with the coal retirements, while the deficit is improving, it's still there.

Morrissey said they asked members of PNUCC's board about a month ago, how do utilities feel about capacity in the next couple of years? If you look at the forecast deficit, it has been improving the last few years, largely due to load forecasts diminishing a bit, energy efficiency and the loss of industrial load such as Alcoa. On the rosy side, there are some expectations of new power markets, and efficient markets could ease capacity. But there are thermal retirements in the Northwest (3,000 MW of coal) and elsewhere in the greater WECC. Looking

at the Council's work, the deficits open up in its LOLP standard in 2021. Now utilities are leaning toward being less comfortable.

Member Baker asked if good hydro could mask adequacy issues? Morrissey said that 2015 wasn't great, but water came in the right months. If you get a bad water year, it can create capacity issues.

Member Devlin asked, Isn't this understandable in that the Seventh Power Plan called for a modest addition above conservation and DR?

McReynolds said her gut reaction is that we are fine-tuning. There are utilities in need of resources, not just in Oregon, and the utility industry is in a completely new space. The BPA/PGE contract is good example of making the best of what we have. My historical view is that we're getting closer to needing something. We'll be super-efficient and then what?

Member Devlin said, "Isn't part of that a natural tension in how the Council looks at the region as an entire system? The reality is that circumstances for many utilities are different." Yes, McReynolds replied. It could be demand response and transmission issues. It's one of the main reasons why the Plan's one-system view is that it sets aside utility-to-utility, system-to-system actions that have to occur and be lined up to work.

Member Yost said you didn't include the independent power producers, no market power and low water conditions. Morrissey said it has about 8 percent water conditions, getting toward critical. We're seeing utilities looking at having a capacity need, he said. It won't necessarily be fuel specific.

Northwest carbon emissions are going down, Morrissey continued. Carbon emissions are inversely correlated with hydro generation. In recent years, while 2016 was an average water year, emissions were pretty low. Coal has been used less due to increased use of natural gas and renewables. Some has been due to the pricing of gas versus coal.

With westwide wind and solar development, there's more solar than wind for the first time, although it's mostly in Southern Idaho, California and states bordering California.

Morrissey talked about solar's impact and CAISO has large, evening ramps. It's shaping exports and shaping prices, he said. In the spring months, when energy demand is low, energy production is still happening.

Flexibility is growing in importance. The energy imbalance market (EIM) is dispatching a small portion of total energy. We don't have a tool on a regional level to address flexibility. We brought it to the board and asked if they were concerned. They're leaning more toward being concerned on this one.

Member Karier said there's been some interest in the peaks in sales to California. One option discussed is if hydro could change its regime for hours. If we're bumping up against transmission constraints, are we there or is there still capacity? Morrissey says the inertia

goes to about 8,000 MW. We're now at about 6,500. So, we're getting close to running out of headroom. Another question is what resources wouldn't run if hydro was going the job, McReynolds added.

Member Ferrioli asked what caused the tip over in solar development?

Morrissey said in California it was a change in policy. In the Northwest, utilities got a lot of wind from 2008 to 2012, and they were okay with their RPS. Going forward, we're seeing requests from PacifiCorp, PGE and Avista. We'll see people in the Northwest building renewables to meet the RPS and to beat the production tax codes expiring.

Member Ferrioli recalls that Oregon's RPS was revised in 2011 with a final date of January 2013. Similar policies in other Western states tipped that wind power over. There's such a direct correlation between public policy and what you see built on the ground.

8. Response to comments and Council decision to release final Irrigation White Paper

John Fazio, senior systems analyst; and Tina Jayaweera, senior energy analyst, told Council Members that they received two comments and responded to them. They acknowledge that not all the water stays in the river and may be used elsewhere. The questions wanted us to expand to assess the costs of actions that might increase travel time for fish, Fazio said. We determined this expands too far beyond the scope of the paper in helping the RTF do its job.

Jayaweera said the RTF has measures for irrigation improvements. We try through our process to capture nonquantifiable impacts these measures might bring. Fazio said they believe the comments ask us to do something beyond the scope of the paper. The response to comments is a one-pager.

Northwest Power and Conservation Council Motion to Approve the Response to Comments and the Release of the Final Version of the "White Paper on the Power-System Value of Conserved Irrigation Diversions"

Member Ferrioli moved that the Council approve for release the final version of the "White Paper on the Power-System Value of Conserved Irrigation Diversions," including the proposed response to comments, as presented by staff and recommended by the Power Committee.

Member Booth second
Motion approved without objection.

9. Briefing on Pacific Northwest Power Supply Adequacy Assessment for 2023:

Fazio briefed the Council on the 2022-2023 Power Supply Adequacy Assessment and began with a background on how the Council puts the report together. He discussed what GENESYS is and how it works, and defined what the loss of load probability (LOLP) means. He said GENESYS creates a model of load every hour, the demand and the dispatch to meet that load.

He explained how the Council assesses resource adequacy. It's rare that we'd have a curtailment, he said.

Under the Council's standard, the region's LOLP must be 5 percent or less to be deemed adequate. However, following 2021, when the Northwest loses 1,300 MW of capacity, the LOLP bumps up to 6 percent. Fazio added that in 2022, with the retirement of another 479 megawatts, the LOLP increases to about 7 percent. With low load growth, the LOLP is slated remain at 7 percent in 2023.

The 2022-2023 resource assessment is only meant to be an early warning so we can take action if needed, Fazio said.

What needs to be done to get back to 5 percent? Fazio said that there is about 800 MW of unspecified capacity in the planning stages. In addition, according to Seventh Power Plan analysis, there should be about 400 MW of demand response available by 2021. This amount was not included in Fazio's analysis.

Utilities in the region are planning for this. Looks like we'll have enough planned resources to get back to 5 percent, he said. The 800 MW of capacity is not cited or licensed. This is just a snapshot of expected conditions.

Because there are scenarios that could be better or worse, they do sensitivity studies. Factors include load growth and energy from California. There's more surplus from California than transmission can handle. Fazio discussed how much dispatchable capacity would be needed to get to 5 percent and reviewed potentially available resources from the PNUCC Regional Forecast.

Member Devlin asked what if we find out by early next year that we won't get anywhere close to our demand response goals? Fazio said these analyses assume demand response that is already implemented. Not the 400 MW that should be available.

Member Norman asked if staff has looked at isolating more-recent years and is there a different output? Fazio replied they have. The reference case looks at 88 years and adds 11 years of more-recent temperatures. He said the advisory committee recommended that they use the 88-year range. It doesn't change it all that much.

Fazio said most problems will occur in the winter. However, as PNUCC pointed out, winter problems should get better over time, whereas summer problems will get worse. Over 10 years out that will be more pronounced. It's outside the scope of this study, he said.

Fazio provided some curtailment statistics: In 2023, it's 0.14, which is 1.4 events in 10 years. The average duration is 21 hours. The most-frequent duration is 16 hours.

He said the executive summary is in the Council Members' packet. In the past, staff asks the Council if they can publish it and put it on the website.

Member Karier said the advisory committee was very impressed and engaged with this discussion. Only five years out of 100 we're inadequate. We nudge a little over with seven. It isn't good, but it's not the end of the world. He said the region needs to meet its energy-efficiency targets and that the Seventh Power Plan's demand response goal of 600 MW needs to be acquired as well. When you do the next year, might want to look ahead a little to incorporate the closure of Centralia 2 coal plant, he added.

Chair Yost expressed doubt about the amount of demand response that will be implemented in the region, but otherwise noted that without objection the report is to be posted on the Council's website

Council Business

Northwest Power and Conservation Council Motion to Approve the Minutes of the May 8-9, 2018, Council Meeting

Member Ferrioli moved that the Council approve for the signature of the Vice-Chair the minutes of the May 8-9, 2018, Council Meeting held in Boise, Idaho.

Member Baker second.
Motion approved without objection.

Northwest Power and Conservation Council Motion to Approve the Renewal of Charters for Council Advisory Committees

Member Ferrioli moved that the Council renew, for a period of two years, the charters for the following Advisory Committees, as presented by staff and recommended by the Power Committee:

- Demand Response Advisory Committee
- Demand Forecasting Advisory Committee
- Conservation Resources Advisory Committee
- Generating Resources Advisory Committee
- Natural Gas Advisory Committee
- Resource Adequacy Advisory Committee
- System Analysis Advisory Committee

Member Devlin second.
Motion approved without objection.

Northwest Power and Conservation Council Motion to Authorize Additional Funding for Fiscal Year 2018 Work on Regional Technical Forum Website Enhancement

Member Ferrioli moved that the Council authorize additional funding, not to exceed \$25,500, for the Fiscal Year 2018 contract with OMBU for enhancements to the Regional Technical Forum website, as presented by staff.

Member Baker second.
Motion approved without objection.

No public comment was offered.

Chair Yost adjourned the meeting at 11:28 a.m.

Approved July 11, 2018

/s/ Jennifer Anders
Vice Chair