NORTHWEST POWER AND CONSERVATION COUNCIL

DRAFT SEVENTH POWER PLAN

PUBLIC HEARING

HELD ON
THURSDAY, NOVEMBER 12, 2015
5:03 P.M.

RED LION RIVER INN
CLEARWATER BOARDROOM
700 NORTH DIVISION
SPOKANE, WASHINGTON

APPEARANCES

APPEARING ON BEHALF OF NORTHWEST POWER AND CONSERVATION COUNCIL:

Phil Rockefeller, Chair, Washington

Bill Booth, Vice Chair, Idaho

Tom Karier, Member, Washington

NORTHWEST POWER AND CONSERVATION COUNCIL STAFF:

Tom Eckman, Power Planning Director

Sandra Hirotsu, Senior Counsel

Tina Jayaweera, Senior Energy Efficiency Analyst

Ben Kujala, System Analysis Manager

Elizabeth Osborne, Senior Energy Policy Analyst

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MR. KARIER: Good evening. If everyone can find a place to sit, we'll get started here.

First of all, I'd like to welcome everyone. My name is Tom Karier and I'm a member of the Northwest Power and Conservation Council. I'm a Washington member from Spokane. And on my left is Phil Rockefeller, a member from Western Washington. And Bill Booth, a member from Idaho.

As you all know, we're here today to listen to your comments on the Seventh Power Plan. And before we get started, I'm going to mostly read a description of what we're doing. This is written by our legal staff, and they like it better if I read it. And since one of them is in the room, I probably should.

So, welcome to this public hearing held by the Power and Conservation Council on the Council's Seventh Power Plan. The Northwest Power Act directs the Council to develop a regional conservation and electric power plan, to review that plan every five years.

The Council is now engaged in its latest five-year planning process. As part of this effort, we've released a draft of the revised power plan, we released it on October 20th, for public review and comment. We will be accepting written comment on the draft power plan until December 18th. That's a key date. The Council will also hold public hearings like this one in a number of different -- other states throughout the northwest in the next six weeks.

If you would like to comment on the draft power plan at this hearing, we have a signup sheet in the back. And if you haven't already done so, please -- please sign up. You can also leave written comments with us this evening if you desire. Your comments tonight will be recorded and placed in the Council's administrative record for the power plan review and considered carefully by the Council as we make the decision to -- on the final power plan, which we expect to make early in 2016. Maybe in March. The same is true for all written comments submitted to the Council.

Let's see. For those of you that have signed up, I will read -- I'll read through the list in order. And please begin your testimony by stating your name and, if you're with an organization, who that is. And we may have you spell your last name if you want to ensure that it's spelled properly in the record.

Your full written statement -- or you can also submit, as I said, a written statement, and that will be included with your verbal testimony.

In some cases, when we have a lot of people testifying, what we -- we have to set a time limit. I'm not going to do that initially. I don't -- I think we will have time. I just encourage everyone to be efficient and concise in making your points. If we do run a little long, I'll try to speed things up a little bit.

Let's see. We -- all public comments submitted to the Council, including oral testimony at tonight's hearing, will also be posted on our website as soon as possible. So you can find that at nwcouncil.org. Just simply nwcouncil.org, and look for the Seventh Power Plan and then we'll have a site there that will post your testimony and others.

I think with that, we're going -- the plan for this evening, we're going to have a brief presentation by our staff, an overview about the power plan, and then we'll get right into the testimony. So I'm going to call on Tom Eckman from our staff to get that started.

MR. ECKMAN: I was told to use the mic, so -- I'm not sure you need it, but she does.

Okay. I have a few slides here just to give an overview of the key findings in the power plan and finish

with a statement about what our resource strategy is evolved through those findings and then the floor is open for you to come up and testify. We need to clean the desk first, so give us a second or two.

Okay. I'm going to go through these because Tom covered those in the opening comments.

A basic key finding on the power plan was both from a standpoint of energy and capacity, that is, peak needs during the winter period. Energy efficiency and demand response are the dominant resources that we see cost-effective development over the next two decades.

On the energy side, this is the energy efficiency wedge and the resource portfolio on average across all the futures we tested. It starts at zero and goes up to about 4,500 average megawatts over the 20-year period. We add a little natural gas to that at the end, some solar and wind, and those are largely developed in response to the existing renewable portfolio standards in Oregon, Washington and Montana.

On the capacity side, on the peak winter capacity side, the big wedge again is energy efficiency because it provides winter energy savings when demand is highest. And so it's the dominant new development for meeting peak capacity in the winter. On top of that, we've got some demand response. On average it's around 700 megawatts at

peak capacity.

We also see on top of that some natural gas at the tail end and wind and solar. And those two in particular -- gonna go back.

Those two, wind and solar, you can't see the lines because they don't provide very much winter capacity. And so we didn't find those to be very useful in meeting the need for winter capacity because the sun doesn't shine very much here in the winter and the wind doesn't blow when it's really, really cold. So both of those are problematic for those resources.

This is the resource stack that we see. It's net load after energy efficiency. So I've said energy efficiency is the dominant resource going forward. Energy efficiency develops enough resources to keep loads flat for the next two decades.

And the green where -- on top of that, the little dark red wedge, is the effect of federal standards that have been adopted since the last plan. It drops the load about 1,500 average megawatts by the tail of the forecast period. So it has a fairly significant effect on the load forecast before we start developing additional conservation opportunities that are yet to be -- that have been identified in the plan.

In about 80 percent of the futures, energy

efficiency develops all -- covers 100 percent of load growth.

These are four policy cases that we tested. The existing policies are those that are existent right now for renewal portfolio standards and for state credits for taxes and all kinds of other things, federal credits for taxes on resource development, in addition to the EPA's 111-D requirements for carbon emissions.

This is the load we see after energy efficiency in the existing policy case. We look at the carbon risks -- carbon cost risk case, where we imposed a carbon price between zero and $50 randomly through the period, increasingly problematic -- or problems -- probability over time so that by the end of the forecast period, the average price was down to $50 a ton and basically, the same result: Net load after efficiency, the same as existing policy.

We looked at a low gas price case where the gas prices were dropped to about $3 a million BTU to less than a few dollars a million BTU as we go forward in time. That still didn't produce reductions in energy efficiency. We still ended up with -- basically at the same place, energy efficiency meeting all well below growth in the average case.

We look at lower conservation case, this is where we've only purchased conservation up to the price of the

wholesale market, not long-term avoided costs. And that produced a lot less conservation, about 1,200 megawatts by the time we get done. It also had another effect, is that it increased the total cost of the system by about $14 billion. So it wasn't a really good outcome. Under investing in energy efficiency added significantly to the price of the system. In the existing policy case, the present value system cost was about $88 billion. This added $14 billion to that total.

If we look at the retirement of coal plants and the impact on natural gas generation, our principle finding here was as we retire coal plants, existing natural gas plants are used more.

This is the amount of natural gas generation on the average we'd see going forward if the coal plants that have been announced for retirement, Centralia in this state, Boardman in Oregon, and North Valmy in North Nevada, is -- had not -- will not close. Well, so we see the natural gas generation declining over time. Because we're doing energy efficiency, we have less need for load, load resources from energy efficiency -- from natural gas.

If those plants are retired, that's the line you see. You can see that there's addition of natural gas utilization as those plants retire in 2020 and 2025. So natural gas is a principle source at the go-to. It's the

next thing in our resource stack we develop after coal retirements.

If we impose a price of carbon on that system that increases over time, natural gas generation also goes up. The existing natural gas also goes up. That's because coal prices are now higher than natural gas dispatch and it's more economical to run gas than it is coal.

This is a scenario where we retired all coal plants in the region and any inefficient gas plant that exists and by 2025, when all that took place, then we see again a bump in the existing natural gas generation. So the conclusion we draw on here is that CO2 offsets when we're trying to reduce carbon can be done by providing additional dispatch of natural gas resources that we already run.

This is the renewable portfolio standard that we increased to 35 percent. What happens here is we flood the market with very inexpensive, low-cost, very little generation in terms of dispatch, and the natural gas resources that we have in the region can barely keep up with that price so they don't dispatch very much.

Carbon emissions. Big story in the plan. We looked at lots of ways to reduce carbon, and here's a couple samples here. We saw -- this is the carbon generation that we would see in the northwest if the three coal plants that have been announced for retirement do not retire. So we

start at around 34 million -- or 3 million metric tons and end up pretty much the same place.

Those plants are identified for retirement and that's what we see here in this next line. That's the emission drop that you get through those coal plant retirements in 2021, 2025. By the end of 2026, they are offline. That blue line also carries with it about 4,500 megawatts of energy efficiency that reduced load growth and the need for new resources beyond where we are right now.

If we add a carbon price to that, a fairly significant one, starting at around $50 a ton to begin with and going to around $60 a ton at the end, we drop carbon emissions immediately by basically reversing the amount of coal that's being generated and replacing that with natural gas generation.

If we bring the prices up to carbon slowly, that just happens a little less -- a little more over time rather than immediately.

And if we do retire the coal plants in the region by 2025, we see a dramatic reduction in carbon. We get down to about 10 million metric tons by the time we're done, from around 35. And this is for just the coal plants that are in the four northwest states. This does not include the coal plants out of region in Wyoming. It's only in the four northwest states. It does include Colstrip, but not Jim

Bridger, for example.

If we impose a 35 percent RPS, we get down to about where we would with imposing the carbon tax at around $50 a ton by the end. Same neighborhood.

This yellow line is the EPA limit for the four northwest states under their new regulations that were adopted in August. So they go into effect in 2022 and phase in through time. By 2030, their number's around less -- just over 30 million metric tons. And if we hadn't retired those coal plants that are already announced, we wouldn't be there. We wouldn't make it. Those coal plant retirements plus the addition of the energy efficiency to meet load growth take us well under in all the policy options that we looked at. But the big effect there was the reduction in coal consumption in Oregon, Washington and Nevada.

Okay. Key findings. We could reduce carbon emissions by 80 percent as -- for the total footprint of the region. That's a little bit different footprint than I talked about just before. This footprint includes plants in Montana and Wyoming and a bunch of generation that's not counted in the EPA rules. But using an RPS to reduce those emissions is not a very economical option.

An example of this. These are little bars that show the amount of emissions that we see per ton per year in 2035. We start out with sort of a scaler here. The

emissions in the total power system were about 55 million metric tons on average between 2000 and 2012. We -- with no coal retirements, if Centralia, Boardman and the Valmy plants are not retired, we end up with about 45 million metric tons by adding energy efficiency to the portfolio, but still running those coal plants. That drops to 34 million metric tons assuming those coal plants are retired as scheduled.

We add a renewable portfolio standard to that, we drop it another 5 million metric tons, from 34 to 29 million metric tons per year in 2035. Other cases drop this below 20. And then finally, when we take all the technology we know how to use right now that's commercially available, we can get down to 12 million metric tons. That's' the 80 percent reduction from 55. That's a pretty big step.

When we look at the economics of this, that little change there, imposing up to 35 percent RPS, adds about $34 billion to the system. If we look at going all the way down to that number by simply retiring the coal plants in the region and inefficient gas, that's a $20 billion incremental cost relative to -- and getting you from 34 to 12 instead of from 34 to 29 for $34 billion.

So, now look at the resource strategy. Its core is energy efficiency, 1,400 megawatts on average by 2021; 4,500 by 2035.

Expand the use of demand response or looking at extra regional markets to supply peak energy in the winter to meet resource adequacy requirements. Those are a new demand response. In particular it is a new resource that we're looking at in this region. It's been developed in other regions for a long time.

Renewable resources. Basically, meeting the standards we've got. And I think a principle effort here is to look for renewable resources that can provide more consistent output and winter peak energy. We presently don't have those in the portfolio. We have solar PV and wind. We need something like geothermal or wave energy that can provide winter energy and peak demand during the winter to meet our needs.

Natural gas. We see an increase, as I said, of existing natural gas and little need for new natural gas generation until post-2025, 2026, depending on how fast we have load growth and whether or not we develop demand response. If we don't develop demand response, then we'll be seeing additional gas generation come in and compete with external market purchases potentially as a viable source of winter capacity.

Using the resources we have in this region in the region will avoid future development. That has some interesting contractual and equity issues associated with

it, and I'm sure some of you can talk to that.

And finally, we need, as I said, response -- in response to the resources we have right now, we need better renewable resources and to look more for energy efficiency long-term, non-carbon-generated resources.

And finally, we will adapt -- we'll do a mid-term assessment to check things out to see whether the actual future matches any one of the ones we tested.

And I'll stop there, clear this off, and let testimony begin.

MR. KARIER: Good. Thanks. Thanks, Tom. A nice, concise summary of a several hundred-page document.

So I'd like to -- before we get started, I wanted to -- I forgot to introduce some of our staff from the Power and Conservation Council. And maybe you could just wave when I mention your name.

John Harrison's here. Sandra Hirotsu in the back. Tina Jayaweera, is it, from Portland. Ben Kujala. Elizabeth Osborne.

So we have a number of people here. I just wanted you to know who they are so maybe after the hearing, if you want to follow up with any of us or the staff, you can feel free to do that.

I also should mention that it'd be a good time now to turn off cell phones. I just did mine as Tom was

talking, and it's never too late at this point to turn those off.

So with that, let's get started. And as I call your name, come up front here. First person is Anne Stephenson. Good evening, Anne. Have a seat.

MS. STEPHENSON: My name is Anne Stephenson. It's S-t-e-p-h-e-n-s-o-n. And I do not belong, really, with any organization. I'm a citizen and I'm just here to thank you for this opportunity to speak for clean power renewables. I would like to see more emphasis put on renewables.

And I think the gentleman that talked -- that just gave the presentation kept talking about current technology, and I think we need to be a lot more bold and promote technology into the -- or promote the study of technology into the area because I know it can be done. If they can, you know, put something up into the air to block the sun from heating us up, you know that they can also devise more technological adaptations so that we don't need to use the gas coming on and that we can use more renewables.

And I agree with all of you that we do need more energy efficiency. That's really important. But I think you need to really be more bold and go for the gusto and, you know, do the best you can do rather than the minimum you can do. And I like the idea of making it a regional area and perhaps, as a region, we'll be able to show the rest of

the country what can be done in terms of saving energy and getting away from the fossil fuels that are dirtying our skies and water and land.

So, thank you for that opportunity.

MR. KARIER: Good. Thank you, Anne.

Jim Robbins. Good evening, Jim.

MR. ROBBINS: Hi there. How are you?

MR. KARIER: Good.

MR. ROBBINS: My name is Jim Robbins. I'm with Kootenai Electric Co-op. I'm a board member on their board, and I also sit on board of the Idaho Consumer Owned Utility Association in Boise.

So in reading through this document -- let me -- let me kind of give you a little of my background so that it gives credence to what I have to say.

I spent 35 years in the natural gas pipeline business, 20 of those years as the director of operations of Pacific Gas Transmission, now called Gas Transmission Northwest-TransCanada Corporation. That pipeline runs from Alberta, Canada to California, and it's one of the largest pipelines in the United States. As a director, I bought and sold millions of dollars' worth of gas off -- on that pipeline, and so I'm fairly familiar with the pricing of natural gas and the production in Alberta.

One of the things I see out of the Seventh Power

Plan was a range of pricing that they believe natural gas will be. And if there's anything I learned in that 35 years is that nobody predicts that. It goes from real bottom prices to unbelievably high prices. And there's lots of drivers behind that and it always lags what's happening in the marketplace.

And the reason it does is because producers go out -- small producers go out, they borrow money, they drill and explore and they develop and they overdevelop, as you've seen in the last few years, and that's just been a cycle that's happened for the last 25 years. And then the price goes down, so it's economics 101. But there's so much -- they've got all these investors and debt that they have to keep producing to pay the bills, but they don't go out and do any more exploration and production. So down the road, you'll see the supply start to dwindle away. And when the supply starts to dwindle away, the price will go up.

The other thing that affects price is pipeline capacity. If there's pipeline capacity to bring the resource to the end user, then the price signals are pretty clear. But if the pipeline gets capacity limited, then that changes and it's the demand price cycle. It is 101 economics as well.

So having said that, in my experience, I saw a couple of things in the plan that I thought you ought to

really consider. One is, you mentioned Henry Hub. And you used Henry Hub as somewhat of a key. Henry Hub is down in the southwest. It's not in the Pacific Northwest. And we really have a fairly good documented history for Stanfield, Malin, Sumas, those places in the Pacific Northwest as to what the pricing has been in the historical.

So I would use, if I were doing something in terms of gas generation, I would use Stanfield because it's right in the middle -- Stanfield, Oregon -- right in the middle of where most of your electric gas generation is. So that's my first suggestion.

Secondly, when you look at this pricing, I think your bottom is too high and your high is too low. Don't be surprised that in the next 15 years, you see the kind of swings that you've seen in the last 15 years, and that's from under $2,000 per million -- MMBTU to over $15 for MMBTU. And if I could predict what that was or any of the people that do exploration, they'd be a lot wealthier.

It's a very difficult process because there's lots of players in the process. There's demand that you don't recognize. Currently on the books you see two large demands that are in the northwest that are -- that are looking at, a methanol plant in Central Oregon with about 400 million cubic feet a day and, of course, the Coos Bay LNG Export Terminal for Asian exports. And that's about 800 million.

And that is going to take all the capacity that's out there that is currently available in Gas Transmission Northwest's pipeline. And when that happens, you're going to see price increases just because of the capacity limitations.

All right. As Bill knows, I've had some conversations over lunch with him about these things, and he's pulled my arm to be on your natural gas pricing and electric pricing committee, so I'll get to hear -- you'll get to hear more about my thoughts on these prices.

Now, let's turn to conservation. One of the things that I find as a problem in dealing with conservation is we do a lot of that based on money. It's the money we've spent to do certain things to make conservation work. And it seems to me, in talking to most of the people that I, you know, feel confident in and getting information from the technical parts of the business, we need to shift that to kilowatts.

What I'm saying is, when you look at having a new appliance and somebody -- you've increased the efficiency of the refrigerator and somebody buys one, that's great. But that assumes that he gets rid of the old one. And I can guarantee you there's a lot of people in my neighborhood who put that refrigerator in the basement or in the garage and it's filled up full of beer.

So that doesn't help you if you just look at the

money spent. In looking at what the kilowatts are, you'll get a better picture of what's happening in your conservation program.

My last thing is, in working for this pipeline, this pipeline has over 400,000 horsepower and 12 compressor stations that runs through North Idaho, Eastern Washington and Central Oregon. And I'm an engineer and I kind of hate waste, and for years I've looked at all of that heat going up the exhaust pipes of those turbines and I've said, you know, we ought to really do something with that, and it never has been economical. But you're beginning to see some people talk about that, and all I'm going to say is that that heat generation, recapturing that heat, is viable.

And there's a project that's been looked at and studied on the Sandpoint compressor station on GTN. It would produce 7.1 megawatts and it would use -- be on a 20,000 horsepower turbine. Now, if you've got plus more than 400,000 on this pipeline, I'll let you do the math. That's going to be 140 million -- 140 megawatts that you could develop at about $65 a megawatt. Now, that's pretty high when you look at what we get from Bonneville, but as an avoided cost rate, that's not a bad number.

So I don't know whether or not, you know, whether or not there's electric transmission that would be in the vicinities of these compressor stations to be able to

utilize that, but it seems to me that there is a lot of coordination between the major powerlines and major pipelines. So the one compressor station in Athol is pretty close to where there is existing turbine generators. You have several compressor stations down through Central Oregon running near high-power -- high-voltage powerlines.

So there is that opportunity out there, and I don't think anybody's ever looked at it and said: You know what? This heat and exhaust is going up in the atmosphere anyway. We ought to really maybe capture it and try to generate power.

So that's my comments. I would say this. In the few years that I've been coming to some of your meetings and getting to know Bill Booth and some of your other Council members, a lot of times people throw stones at you and I'd like to, say, throw a few flowers. I think you guys do a wonderful job. I think you do -- it's -- in balancing all of the things that are necessary to make this energy thing -- energy process in the northwest a cooperative and coordinated effort. And I just personally, from an individual, I thank you.

MR. KARIER: Thanks, Jim, and I'm glad you're joining our technical advisory committee.

Next, let's see, Christine Clark. Good evening.

MS. CLARK: Good evening. Thank you for this

opportunity to comment on how carefully we're planning --

MR. KARIER: Oh, could you say your name for the record.

MS. CLARK: Yes. Christine Clark, C-l-a-r-k. My address is 200 --

MR. KARIER: We don't need the address, but if you are representing somebody, let us know.

MS. CLARK: Yes.

MR. KARIER: But if you're not --

MS. CLARK: Yes. I'm a member of the Sierra Club and I'm very happy to be a member of an organization that provides so much information to its members.

MR. KARIER: Thanks.

MS. CLARK: My concern is conservation, and I really appreciate the careful planning that's being provided for conservation of energy.

I think most of us as humans, as we celebrate our electronic access to information, we want more of it. This seems to be a human quality: Let's have more. However, electronic information in our world requires a lot of electricity and a lot of heat generation. We have server farms in Quincy, Washington. We have server farms in Oregon for Facebook. And so we're accepting the fact that the production of internet communication requires electricity and has a challenge with heat as we produce our information

services.

I think we have a worldwide crisis as we have increased our carbon dioxide content on our planet so that we are now experiencing climate change. Our oceans are heating up. National Geographic in the past few years has had wonderful explanations of the changes of currents in our oceans.

Personally, we have -- we record the outdoor temperature at our home in the morning, and we are seeing a five degree increase in our winter weather temperatures in the morning at dawn when we get up at 6:30. It's five degrees higher this time of the year than it was the past couple of years. I see buds on trees and, if we do have a deep freeze, those buds are going to be damaged and we're going to have an agricultural crisis because of the changes in our weather.

But looking at your regional planning, I agree the coal-fired plants need to be retired as soon as possible, not later. I think they need to be retired now. I think the problem with coal and oil is it's a sequestered carbon so that when you burn it to create energy, you're releasing more carbon into the atmosphere, which is absorbing more sunlight and increasing the heat on our planet. I want to know if I can expect sand dunes in my backyard south of Deer Park in a couple of years.

I agree with renewable energy. The challenge with renewable energy is the cost and the benefit ratio. How much does it really cost for renewable energy? Look at the ecological impacts. With the wind towers that we have, we're killing the birds, and I think birds are valuable to our environment.

As a consumer, I have a concern about decreasing energy use in my old house. It's a 1960s house. That was when they built houses to have radiant energy from electricity. Well, we're trying to decrease that use in our house, so we have a pellet-fired stove and we have a wood-fire insert in our fireplace to save our energy. And we keep our thermostats for the radiant energy decreased as much as possible.

I would like to see more encouragement of energy conservation in the home because what do we have? We have individual homes. This was part of the power sales when electricity was first developed. Have your own home, you know. We waste energy with single family homes, and there seems to be a swing towards multi-family housing. There was a wonderful Avista project in Spokane Valley at Pasadena Park. We stayed there for six months when we returned to Spokane, and our electrical bills were amazingly low. So I would encourage that as well.

Thank you.

MR. KARIER: Okay. Thank you, Christine.

Next, Penny Derleth. And if I pronounce it wrong, you can correct me.

MS. DERLETH: You actually got it right, and nobody gets it right.

MR. KARIER: A stab in the dark, but thanks. Welcome.

MS. DERLETH: Okay. My name is Penny Derleth. It's D-e-r-l-e-t-h. And I came in here thinking I knew a little bit. I discovered I don't know anything about what you're talking about. And this nice gentleman over here with this PowerPoint show, I didn't understand very much at all about what you said. It was a wonderful presentation; I have nothing but questions.

I am a member of the Sierra Club, but only because I toss them money every so often. I'm not a practicing member and I'm not representing them. I'm here as Jane Q. Public, and I really, really think we need to do some -- oh, I'm not the only one. Everybody believes that we need to do something about global warming.

I would like to see -- get rid of the coal plants. I hate the idea of using gas instead. Although it's better, it's not good. I'm sort of puzzled by geothermal. How -- I didn't even realize the northwest had geothermal. And, of course, nobody has mentioned the water power, which I think

they're trying to get rid of because of the salmon and other issues.

But I want us to take care of the ecology. I want us to have really nice, new things that we're coming up with but I can't think of the proper word because I'm a senior and senioritis gets me every so often. But new technology, we need to come out with that.

And I just read last night, I think it was the U.N. that said that it's up to people like you, the utilities and the power people, to do your thing to keep our planet from going over the edge. And I thank you very much.

MR. KARIER: Thank you, Penny.

Tom, we're going to have to work on your slide presentation, I think.

Stephen Boorman.

MR. BOORMAN: My name is Stephen Boorman with the City of Cheney, and kind of echo some of Jim's comments. One of the things we'd like to see is some windage in that conservation target. None of us are -- probably can predict the future.

The other comment I had is I can remember when the Sixth Plan was being developed, that conversation, how we needed to look at capacity instead of just energy. And so I think there's some definite kudos for the Council to really bring that to a forefront because as a utility manager,

capacity is in some ways more valuable than energy. So I'd like to acknowledge that that's in there.

That's all I have. Thanks.

MR. KARIER: All right. Thanks, Stephen.

Pat Keegan. Evening, Pat.

MR. KEEGAN: Hello. Thank you. My name is Pat Keegan. I'm with Collaborative Efficiency.

I was just thinking and I remember how nervous I was -- I think I was an intern or something for the very first power plan. I think I had to handle somebody's slides and they were on transparencies. Remember the overhead things? I was so nervous, and it's nice not to have to be that nervous for this one.

I'm an energy efficiency consultant. I used to work in the northwest and worked with a state energy office. I left the region, though, in '93 and was able to see how energy efficiency was being done internationally and around the country and then recently came back, so it's been really an interesting picture to come back and kind of see where things are at.

It's been -- my job now in consulting is really to help small utilities, so I work with the co-ops around the country and small municipal utilities, and I have some -- a little bit of business in the northwest. So I don't understand all of Tom's slides either, so --

But anyway, I guess my one comment is, kind of seeing what's happening in the world of energy efficiency, is that I think there's a lot more that's achievable than we're really crediting in our plans, and there's some reason for that. Over the last decade or so, there are so many more tools to be able to do energy efficiency at scale than we've ever seen. All new methods, new software, new ways to automate the whole process of energy efficiency. We just need to get a lot more done.

And, there's -- you know, now we're seeing around the country a lot of financing programs come in. I mean, most of our energy efficiency in the residential sector in the northwest has been by rebates. Well, people that don't have cash can't participate in those programs. So having really good financing that will get a lot more people in, you have a lot more achievable conservation.

Also, a big new thing that we're looking at, the northwest was one of the pioneers, but it's behavioral efficiency. Something we used to shy away from. But it's ways to really have people controlling their buildings in a really efficient way. And the challenges for us is to really figure out what they're doing and to make sure that that's a sustainable savings and it's there year in/year out, something we can really depend on. But there's huge advances happening in that area as well.

So how would we -- how do we do this in the northwest? So how would that happen here? You know, we've got over a hundred utilities in the region. You know, most of these utilities are small. They're pretty much operating it the way they always have, you know, since we started doing this energy conservation work 30-some years ago, and the beautiful thing about that is they're customers trust them. And when our small utilities go out and talk to their customers, they get some real traction. They're close to home. And that's a huge strength.

But there's also a big weakness that comes with that. These are tiny organizations. And it's not just the northwest, you see this all over the country. Small utilities can't afford these tools to scale up energy efficiency. Only big organizations can. So now what's happening around the U.S. is big investor-owned utilities are modernizing their energy efficiency programs and learning how to get way more done, but these small utilities can't do that. They can't write the checks for it.

And we haven't upgraded our institutional infrastructure to help them deal with that, right? So we pretty much have what we used to have. We have NEEA, thank goodness. They were an innovation that was brought in. But we have BPA and we have NEEA.

MR. KARIER: So that's the Northwest Energy

Efficiency Alliance.

MR. KEEGAN: Yeah. Oh, sorry about that. Yeah.

MR. KARIER: Right.

MR. KEEGAN: But it's known nationally. It's very highly respected, and so is BPA. BPA has done a lot of really great things. But if we really want these small utilities to be able to do more, we have to provide more support.

And I think they really need kind of a different kind of institutional support than they're getting. If you look around the country and you see different ways small utilities are being supported, you'll see some things the northwest doesn't have. You know, the organizations that are wholesalers, the generation transmission organizations that sell electricity to co-ops, for example, like PNGC, but they're all over the country. So there's third parties, nonprofits that can come in and support small utilities.

So what we need is a way to keep the strength of the small utility programs where their customers love them. You can really get a lot done with the customer. But we need to empower them with some of the tools so that they can automate, they can use the most modern software, they can get some economies of scale, they can have strong administrative support. If that's done, I think you'll see in the northwest there's a lot more efficiency that we'll

consider achievable that we're just not able to get at right now.

Thank you.

MR. KARIER: Thank you. Sorry about the noise next door, but we'll just soldier on while listening carefully.

Barbara Morkill. Good evening, Barbara.

MS. MORKILL: Hi. My name is Barbara Morkill, M-o-r-k-i-l-l. I don't usually come up and speak in front of people, but I just wanted to say thank you for the opportunity.

It seems like a fairly well-balanced plan. I'd just like to see more emphasis put on the efficiency. I think as a previous speaker was saying, there's probably a lot more ways we can improve on that and less reliance on the gas. And as climate change really starts to take hold, it's really important that we do away with gas and do some bolder steps for renewables. New renewables or more solar. People can put solar panels on their home. I think if we would help people do that, more people would be willing to do that.

So thank you and thanks for closing down the coal.

MR. KARIER: Thank you, Barbara.

Kathleen Nelson. Hello.

MS. NELSON: Hi. My name is Kathleen Nelson, N-e-

l-s-o-n, and I'm an RN and I'm here representing the Sierra Club.

And what I would like to speak about is, Tom, I'm so sorry, but I, too, was a little bit confused by your slide presentation. But one of the things that did stand out to me --

MR. ECKMAN: It's a trend.

MR. KARIER: Yeah.

MS. NELSON: -- was seeing that year 2035. And I'm thinking, we're still going to be using coal plants?

I just, as a health professional, I have witnessed myself the passing of these humongously long coal trains and the amount of coal dust that they're putting out across our country, and anything we can do to minimize that, I think in the long haul in our country, we're going to be better off because not only is there an issue of global warming, there's an issue about our own health and how we're going to survive under these growing circumstances.

So what I would like to see is some -- not the same old, same old, but a more broader picture, a more thinking-out-of-the-box picture. I know there's huge gains in healthcare that we've made just in the last five years in what we can do, and I'm thinking certainly if we can do that in medicine, we can do that within our utilities.

And so I encourage you to please do not continue

using coal-based energy and see what we can do to have new resources. Thank you.

MR. KARIER: Thank you, Kathleen.

John, do you have the list, the next list? I don't know where that door comes from, but -- let's see, we have a few more people.

Sam Mace. Sam.

MS. MACE: Thanks for the opportunity and being here in Spokane tonight. My name is Sam Mace. I'm the Inland Northwest Director for Save Our Wild Salmon Coalition, which is a coalition of commercial fishing associations, sport fishing businesses and groups, conservation organizations and clean energy advocates, all working on salmon restoration in the Columbia/Snake Rivers.

And, you know, I certainly personally echo a lot of the thoughts that have come before me and I'm more encouraged at a lot of the things that are in the plan in terms of clean energy and efficiency. Our main concern, of course, are some omissions we feel in the fish and wildlife portion of the draft plan and, in particular, the omission of an analysis of the costs and benefits of keeping or retiring the four Lower Snake River dams, which was included in the Sixth Power Plan and shown to be pretty affordable. And we would very much like to see an analysis in the Seventh Power Plan. And, you know, if it was an important

analysis to do five years ago, it's an even more important analysis to do today.

And, you know, we've already -- climate change has come up already in the testimony today and in the presentation and, you know, what scientists and what American Fishery Society has said over the years, and others, is that if we want to truly restore our salmon and Steelhead in the Columbia/Snake rivers, that removal of the four Lower Snake dams really needs to be a cornerstone.

And right now, those dams are impeding salmon and Steelhead from going up and in, you know, high enough numbers up into the best habitat left in the lower 48. Thousands and thousands or miles of fantastic habitat in Idaho and Northeast Oregon and Southeast Washington.

And they're fish that have provided jobs and important money coming in to towns like Riggins, but it also really benefits the towns on the Oregon Coast where I grew up and the fishing communities that I grew up in. This system and these fish benefit a lot of towns and a lot of businesses and their decline has really affected a lot of businesses and people.

And this year in particular has been a very rough year for the fish. And, you know, I think we had -- I was thinking -- I was going to say a quarter of a million salmon died in the system this year. The guy next to me, who was

looking over my shoulder, nudged me and said, no, it was 700,000. So anyway, between a quarter million and 700,000.

The juveniles going out, of course, everyone knows we had 4,500 Idaho Sockeye come into the system. We had 45 make it on their own to the lake, Redfish Lake. Not very good numbers. The Fish Passage Center has looked at the very dismal juvenile survival rates out of the system this year. I think it's in the 30th percentile for spring/summer Chinook and Steelhead.

And so we've had some better ocean conditions in the past, and the scientists are telling us those are likely to turn around and go back into the cycle that is less favorable to salmon. And scientists and others are also telling us and we see a lot of stuff that -- you know, news stories that what we're seeing this year is probably going to be the new normal that we're going to be looking at, and certainly what we're looking at for next summer is very likely to be as bad.

And so the other thing, too, the Fish Passage Center recently did was a memo looking at the impacts on heat in the system from the dams, and really noting that, yes, of course it was hotter in the streams, in their natal streams that they were going to, but that cumulative effect of hot water is really doing a number on the fish.

And so we have to do more in this system if we

want to have salmon and Steelhead into the future, and one of the pieces that really needs to be looked at is removal of those four dams. And, you know, we're encouraged -- there's been a few studies that have come out looking at what the costs would be in terms of power if those dams were removed.

We very much support the Northwest Energy Coalition's report that uses your -- you know, the Council's numbers, same kind of methodology of looking at what it would cost your average power customer if those dams were taken out. A very conservative analysis came up with $1 a month. There's another report out there by the economist Tony Jones that slices and dices the numbers in a different way and comes out with, I think, a 6 percent benefit per power customer. Either way, it's definitely affordable to the region.

And I think the other thing that is a backdrop, that's not an issue that this council is dealing with, but in terms of the costs and benefits of those dams, the primary purpose of them was for transportation, to make Lewiston, Idaho a seaport. It's the reason they were built to begin with, and we are seeing the shipping on that river decline by 70 percent in the last 12 years.

And right now, when, you know, we talk about the Columbia/Snake transportation system, really you have a

Columbia transportation system and you have a Snake and they're connected. 96 percent of all the goods that travel on that system travel, you know, from Pasco down -- or upstream to Pasco, only 4 percent is on the Lower Snake.

So certainly when it comes to transportation and that benefit, it's getting harder and harder to justify the rising costs of maintaining those dams, especially looking into the future as they're aging. You've got the sediment issues that are also costing us money. You've got the flood risk concern for Lewiston, as they're going to have to eventually raise those levies if those dams stay.

So we think an important thing to do right now is on the power end of it, for the Council to really look at analysis of that in the Seventh Power Plan. Thank you.

MR. KARIER: Okay. Thanks, Anne.

Bill Johns. Good evening, Bill.

MR. JOHNS: My name is Bill Johns. I'm a retired civil engineer. I actually worked on Lower Granite Lock and Dam, and some of the things that she just said aren't exactly true. Power production was part of the cost-benefit ratio, so was transportation and so was, I think, a little bit of recreation.

And I think it was a good investment of money. I mean, it used to be that we looked at producing more power in this part of the country, and that's what drove the

economy of this area. Now, it looks like you just look at trying to hold maybe what we have and actually reducing. I mean, we've lost another two aluminum plants. I remember going to a meeting when we lost the first round of aluminum plants; people were crowing of how much efficiency we've gained and how much that helped. But all we did was eliminate jobs. Now you're going to have some efficiencies with these two aluminum plants going down, but the jobs are going down, too.

I'd like to see more aggressive power production, and not with the unreliable wind and solar. You know as well as I do the reliability and what it costs. To produce power from them, you have to be backed up by some reliable power. Either that, or we're going to shut of power. I agree, I think nuclear, possibly, but I don't know how long it would take even at Hanford to try to site another one.

Gas prices, I agree with the guy who was talking about gas prices. I've had something to do with pipelines, trying to get them to a different place. And with the way the UTC operates in Washington, it's very difficult because you can't raise the money. You have to put up the money and speculate. It's not like when they first produced them.

And I don't know what it would take, because I've been in -- done a lot of EISs, to see -- even to site new pipelines for gas. So when you reach the capacity of these

pipelines that are existing, which they do have a finite capacity -- and they have a tiered approach of where that gas can be used first. So even if the gas capacity is there, you can't use it when you have your primary users of it.

I also do not believe that CO2 is a pollutant. So let's not put down that everybody is sold on the global warming hysteria.

It amazed me when the -- what I call the pigtail lights, the new lights that we use everywhere, at the same time they were talking about the mercury that was from the coal-fired plants and yet I read on the side of that that they have mercury in them. And you should have seen the report that they had from the local health district here, what you should do if one of those falls on your carpet.

I think that coal is a good source of energy. It's here. We know the supplies. It's a good base unit. I don't think we should be eliminating them and replacing them with gas, to start with. Thank you.

MR. KARIER: Thank you, Bill.

Jim Lee. Hello, Jim.

MR. LEE: Good evening. Jim Lee, that's L-e-e, with the Citizens Institute for Public Policy based here in Spokane.

And I guess what I would like to -- one of our

pending citizen resolutions relates to the concept of an Apollo project nationwide to move us to a hundred percent clean energy by some time certain in the future, ideally 2050 or sooner.

I guess what I just wanted to do is encourage this panel to think beyond the 20-year time horizon that you're obligated to deal with and begin to ask the question: How do we truly move beyond carbon combustion? I honestly believe that a hundred years from now, our great-grandchildren will look back at the way that we burn fossil fuels as something that's unthinkable and primitive. So let's lay the groundwork now to reach the complete elimination of carbon combustion.

Even if you deny or have doubts about climate change, there's something called the Precautionary Principle and all the insurance companies and the -- especially what they call reinsurance companies, who insure the insurance companies, are very, very worried about the cost and the destruction of what will come with global warming. And so, as somebody alluded to, our military is also making contingency plans and putting serious consideration into place, what they'll have to do to meet those crises.

So I know it's beyond your scope as you sit, but maybe if you're still involved in the next iteration, look beyond carbon and what it would take to get there. Thank

you.

MR. KARIER: Thanks, Jim.

Ed Parents. Hi, Ed.

MR. PARENTS: Thank you. My name is Ed Parents. That's P-a-r-e-n-t-s.

The lexicon of the energy game has certainly changed. I'm sorry, I didn't understand much of what you said and I was trying to follow this thing for -- you know, as closely as possible. I was present at the creation, for those of you who don't remember, me and Pat Keegan -- I didn't know where he was. I know he didn't have a clue about where I've been. But anyway, we go back to the days of Skidmore, Owings & Merrill and the ASHRAE 1975 arguments back in the 1970s before the creation of the Northwest Power Council.

I was privileged early on, and I don't know how it happened, but Senators Jackson and Magnuson found out that BPA, the DSIs, the mid-basin irrigators, and the privates -- or the publics and Potlatch and many, many other players in the energy had been meeting for months -- years, it turned out -- behind closed doors, discussing the region's energy future. And the region's energy future, when I was the first guy to walk in the door that wasn't wearing an engineer's hardhat from any of the utilities, the energy future was called WPPSS.

I brought a souvenir today. I want to share it with the Board.

MR. KARIER: It's not radioactive, is it?

MR. PARENTS: No, it is not. It's guaranteed --

(Laughter.)

MR. PARENTS: Guaranteed made out of earth metals, whole earth metals.

For those who can't see, that's a belt buckle, and on that belt buckle are the cooling towers of WPPSS-3 and 3 through 5 for Satsop, I believe, is where they were planned for. I found that in a secondhand store somewhere and I just said, "I gotta have that."

Those plants are now empty cooling towers and no other structures associated with them. The thing was that back then we were projecting energy growth on a straight line 10 percent annual growth. And it was a ridiculous number and it wasn't right.

I want to thank this Council. I want to thank the Council's predecessors for having taken this matter seriously and over the years having brought a bit of reason to the power plan of the Pacific Northwest. We are no longer faced with those people who were jumping up and down and saying if you don't build it, we'll all freeze to death in the dark. Well, we didn't build it and, as far as I can tell, the lights are on and the buildings are warm.

I am a strong advocate of basic acts of energy conservation. What Pat was talking about, I would encourage the Council members to take a drive through the West Central neighborhood of Spokane, or some of the lower income areas of the East Central and the Logan neighborhoods. Do a storm window count. Do a storm door count. Try and figure out how many of those places would not be using the amount of energy they are using today if we took even the most basic steps and reinvigorated the home weatherization programs, the energy reduction programs, you know, insulation weatherization, weather stripping, that kind of stuff.

There's stuff to be had out there. It's still there. We didn't get it all. We can get more of it. And every bit that we get means that we don't produce -- we don't have to produce more.

I love the numbers -- I didn't even understand them, but I loved the numbers that showed that we got enough right now. We're doing pretty much okay. And I would encourage the Council to make those numbers even better.

The concern that the gentleman from the gas industry raised, capacity and price, if we can continue to reduce consumption of all forms, then the capacity of the pipelines won't be an issue. So we can offset that. We can do better.

I want to thank the Council for the opportunity to

comment. Keep up the good work. Please do more weatherize, weather strip, caulk, windows. Do what you can. The cheapest kilowatt you'll ever produce is the one that you don't have to use. Thank you.

MR. KARIER: Thank you, Ed.

That exhausts our list of people who designated that they were going to speak tonight, but I suspect maybe some people have decided they would like to. So I'm going to open it up. Is there anyone else that would like to say anything tonight?

Come on up and state your name and I'll call on the rest of you as we move along.

MR. RUTHERFORD: My name is Jim Rutherford. I am primarily here as a father and a grandfather and alumni of Gonzaga as well as Whitworth, and I can't wait for others to do, so this year I've been fortunate enough to be in a position where I put in new windows throughout my house, put a new roof on it, tightened things up a little bit. Bought solar power. I haven't got the panels up yet, but I bought the solar panels and batteries. And I would like to see it so that people who aren't as fortunate as I am can have the opportunity to do that for themselves.

If every house in the neighborhood -- I mean, we've got 200 days of sunshine a year right now. We may have 300 in another 10 years, but, you know. Meanwhile, we

can reduce a lot of energy consumption by generating some of our own, and that would help out so many.

And the Power Council, you know, I'm not quite sure who's representing and what's being represented. I know that Avista has an investment in generating power, and I don't want to see it coming from coal. I don't necessarily want to see it coming from gas. And I understand that it's going to take some time and new technology before we can be generating enough year-round on an ongoing basis, but with all those hot springs, geothermal is available to some of us. There's a lot of things that can be developed.

One other thing that I've been doing personally is I'm giving my kids trees in the national forests through Arbor Day. And I think it would be really nice if people had a chance on their utility bill to put a dollar for a tree. And that's what it generally costs, is a dollar for tree. So for my granddaughter's fourth birthday, she got 25 trees in the Tahoe National Forest. If we could do that on our utility bill, we might be able to trade off some of that carbon loss, too.

You know, we talked about trading carbon with different kinds of projects, but planting more trees I the forests that are being burned off every year is not a bad idea, I don't think. Okay?

MR. KARIER: Thank you, Jim.

MR. RUTHERFORD: Yep.

MR. KARIER: Let's see. In the back, can you come up? Actually, anyone that wants to speak, why don't you come up and sit in the front row here and then we'll just bring you up as we have a chance to do that.

MS. CALVERT: My name was on the list, but I didn't check it, I guess.

MR. KARIER: Okay. It was a little odd. You had to write something in the margin to get designated.

MS. CALVERT: There you go.

My name's Jennifer Calvert. I'm connected with the Citizens Climate Lobby and with the Sierra Club and with 350.org, and I'm very appreciative of you being here and presenting the plan. And I'm delighted that so much of the plan has to do with using the efficiency. That just almost sounds too good to be true, that if we just be more efficient, wonderful things can happen. But it sounds like and it looks like from the graphs that I saw that that might even be the case, and that would be wonderful.

I'm a math teacher and so what he's --

MR. KARIER: So you like the graphs.

MS. CALVERT: I like the graphs.

MR. KARIER: Okay.

MS. CALVERT: Very much, yeah. They do speak to

me. They certainly do.

(Laughter.)

MS. CALVERT: And I'm very aware of human nature and the fact that we've been around thousands of years and the fact that, in the normal lifetime of human beings, we base what we think's going to happen in the future on patterns that have happened in the past. And for thousands of years, that's worked really well, but I've seen the graphs and I've seen how things are changing so much faster than they used to in the past.

Like, one of the things that I show students is the graph of population change. And in 1800 we had one billion people, in 1875 we doubled that, and about every 75 years we double that. And so when you look at the graph, it goes like this, and that's not so bad, and then it goes like this and all of a sudden the change that's happening is happening really, really fast.

So my point being that we cannot base what's happening in the future by what's happened in the past, because it's changing faster than it used to happen in the past. So we have got to do everything we can do now. When I look at that curve and how fast it's going up, I'm just so aware that human beings have never, ever been in this spot before, and that makes it a little tough for us to try to think of the future when we've never had to face some of the

things that we're facing right now.

I -- actually, it surprised me when the gentleman was mentioning about he's not really that concerned about CO2 or climate change and I'm going, "Oh, my gosh," because in my understanding, it's right there in front of us. We absolutely have to do something about it. We need to not pull one more ounce of coal out of the ground. We need to not burn one more drop of oil. It's that urgent.

And so with the commission being here and taking our comments, I'm just happy to sit in front of you and say, "uhhhhhh," you know, we have to do everything we possible can from 30 years ago, but now, you know, better start now to do everything we possibly can to make the future possible for us to live here and -- yeah.

It just -- I don't know all the specifics of everything that you're going to do or everything we are all going to do. I just know that there's that goal ahead of us and we have got to be so single minded about that goal or the future won't be a good one for my grandchild.

So, thank you very much. Appreciate it.

MR. KARIER: Thank you. Next.

MR. MORRISON: Thank you for having us. My name's Don Morrison. I'm a lifetime resident of Washington, lifetime fisherman, lifetime hunter, and a lifetime conservationist. When I went to college, I took -- I had

five degrees, and the one that kept my sanity was resources management and conservation, about utilization of our resources, our wildlife and our fisheries.

A lot's been said here that's been very viable. I agree with these gentlemen that talk about making the resources available to those that need it. I've worked for BMAC, which is the Blue Mountain Action Council, when I lived in Walla Walla and I worked for SNAP many years ago, and we did weatherization, fixing old houses. Making them livable. Simple thing to do, big return on a little investment.

I am not a fan of coal, nor oil. The damage is huge. CO2 is real. The global warming is real. If anybody doubts it, drive southwest out here to Sprague, Lamont and tell me how many potholes you can count that used to have water in them that are bone dry. And the creek that I was hunting along yesterday is dewatered. First time I've ever seen that. I've seen it in low water, but I've never seen it empty. And I was hunting on land that was provided by the Corps of Engineers in compensation for the land lost by the dams.

We have screwed up this environment. Our planning council, there's much to be done. A lot that needs to be done is with our river system. The dams on the Snake River are no longer viable. They're a waste of energy. They can

be bypassed. We talk about the money that it costs. It's estimated -- I've heard a low estimate from the Corps that it costs $71 million to maintain those dams and I've heard another reality estimate says 700 million to maintain them. That's a lot of tax dollars. That's a lot of money that can be put forth elsewhere. Where are they going to spend it? To dig out Lewiston when it sinks, because it is.

The river systems are hot. They're too hot for the fish survival. Flowing water is generally cooler. And what Sam Mace referred to, the loss of the fishery this year was huge. Yes, I've seen the headlines, "Huge Chinook Fishery Returning." Eight-eight made it through Lower Granite Dam. Today I looked it up while I was sitting back there. Eighty-eight Chinook salmon, hundred-and-some Steelhead. That's pretty low numbers.

The loss this year because of overheating and the climate, the effect of the weather systems we have created -- and a lot of that is from too much carbon in the air -- the loss of fisheries on the upper Columbia River were huge. Estimated as high as 700,000 Chinook -- not Chinook, but Sockeyes. And that's not taking into account the number of mature sturgeon that were lost because they were eating those Sockeyes which had become diseased because of the overheated water and the fungus in those Sockeyes killed the sturgeon, and we lost many huge sturgeon. And those fish

are upwards -- can live to be 100, 150 years old.

We need to take a look at, seriously, looking at what we're doing. There was an article I read many years ago and -- many years ago, and I can't remember the author, but I remember the name and it was called "Too Many F'g People F'g." And it dealt with the misuse of resources and people destroying the planet. And that was -- that was a hell of a lot of years ago when I was going to college and that class.

We have too many -- we have a lot of people. We need to meet the needs. And we need to meet those needs by managing our energy resources responsibly. I like wind. I like solar power. I like the fact that you can take a turbine and place it in the middle of a river without disrupting the flow and generate electricity, much like what they have done in Scandinavian countries and they've also experimented with some places here in the United States. Cheap. It's economical.

I'm tired of seeing our tax dollars go for things that don't work, which is the millions and millions and millions of dollars that has been spent over the last -- since the dams were built on salmon and Steelhead recovery. Much of that money could be better used to remove the earthen portion of those Lower Snake River dams and to return that money back into the area in the form of

renewable energy resources, recreation and such, which would have a huge impact. Huge.

This hat I wear belongs to a chapter of Spokane Falls Trout Unlimited, which I am a board member of and have been for some time. Been a member for a long time. Our chapter was formed in the '70s to combat those dams because of the problems we knew they were going to cause and they have continued to cause. We were successful in stopping the Asotin Dam on the Snake River. Thank God it never got built or we wouldn't have Hells Canyon today as we know it.

So as a power planning, your job is immense. It's huge. And I appreciate you taking the input. But I ask that you be fair and include all parts of the plan, not just select or cherry pick the parts that you want in there or that the agencies of BPA, et cetera, want in there, or the Corps of Engineers. I served in the Corps for four years. They're not my friends. And I appreciate you giving us the opportunity to speak today. Thank you.

MR. KARIER: Thank you, Don. Anyone else that would like to speak?

Okay. Come on up. Identify yourself.

MR. BYLENGA: Sure thing. Thank you.

Hi. My name is Jace Bylenga. The last name is spelled B, as in boy, y-l-e-n-g-a. And I'm an organizing representative for the Sierra Club Beyond Coal Campaign here

in Spokane, so as a staff member. And I'm not going to make any technical comments, but I wanted to speak on behalf of some of our members who couldn't be here today.

I've been working in the community gathering petition signatures for Avista's -- Avista Utilities' 2015 IRP, and we've had a couple thousand people say that they want Avista Utilities to move away from coal towards clean energy. And I know that doesn't exactly line up with the Seventh Power Plan, but it does show -- you know, these people might not understand exactly how an IRP is written, they don't necessarily understand what the Power Council and their Seventh Plan is all about and all the complexities that go along with it, but they do want -- they understand that our climate is in danger and that their lives are directly impacted if we continue to pollute the climate.

So if we continue to pollute the climate, they understand that summers like we've just had, with incredible drought, incredible forest fires, no snowpack in the mountains, they know that that could be the new normal for our region, and they want to see a change.

There's many passionate people that are worried about this issue, not just because of the local impacts but because of the global impacts. And so I just want to say that, you know, if they were there -- if they could be here today, if they could understand the process a little better

-- not that they necessarily can, but not, you know, everybody can, but that they would be here supporting a strong Seventh Power Plan and applauding your efforts to, you know, reduce our energy use and encourage more renewable energy. So, thank you.

MR. KARIER: Thank you. And, last call. Is there any others --

MS. DERLITH: May I talk again? Could I speak again? I didn't talk very long.

MR. KARIER: Okay. Since you've asked so nicely, yes, you may.

MS. DERLETH: My name's Penny Derleth once again. Still.

I've really learned a lot from the speakers, but one of the things -- I am a low-income person. I am a renter. And, yes, I agree, we need to make our houses more efficient, our homes. It would be very nice if there was some kind of an incentive for landlords to make the homes that they rent out environmentally efficient, and I didn't hear anybody say that.

So, thank you very much. And thank you so much for coming to Spokane. Are you from Spokane?

MR. KARIER: I am.

MS. DERLETH: Okay. Good. But, yeah, thank you for having the hearing.

MR. KARIER: Thanks. Okay. Anyone else?

Well, I want to thank all of you for your comments. You were very concise, to the point. And what we will do is -- as you can see, we were taking detailed notes, verbatim notes that will be transcribed, and those will be available for all of us to review and for the Council members that are not here, the other five Council members will get those written transcripts as well.

And as I mentioned, all of you are encouraged, if you would like to submit written comments, you can do that. I think the deadline was December 18th for those. And feel free to call or contact the Council, or any of us, if you have questions or you want to follow up with any of these topics. This is really an important part of our plan development, to get input from the public, and we're always looking for better ideas and to try to look for something that can be even better and better serve the region.

We will also take a look at Tom's presentation and see if there's ways to convert some of the graphs. That was telling. But it took a math teacher to appreciate.

But anyway, again, thank you. I don't know if Phil or Bill have anything for the good of the order?

VICE CHAIR BOOTH: I would also echo the thanks and the Power Act was drafted by Congress in 1980 and one of the primary drivers in its creation was desire to provide

more transparency in the region as to how the power resources are used and the future needs and give the people in the region more of a voice in having a say in how it's done. So it's very encouraging to me to see so many folks coming in today and speaking out.

CHAIR ROCKEFELLER: And I can echo what Tom and Bill have said. I'm Phil Rockefeller from Western Washington. But I found it very helpful to be here tonight and to hear your thoughts and comments, and I thought there were a number of really interesting ideas being expressed. So thank you very much for taking the trouble to come and tell us your view of the world and what we should be doing better. Appreciate it.

MR. KARIER: And with that, this meeting is closed. Thank you very much.

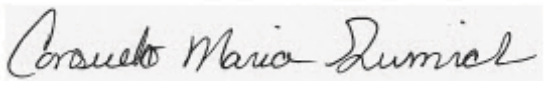
(Whereupon, the Public Hearing was concluded at 6:28 p.m.)

CERTIFICATE

I, Consuelo Grumich, do hereby certify that I reported all proceedings adduced in the foregoing matter and that the foregoing transcript pages constitutes a full, true and accurate record of said proceedings to the best of my ability.

I further certify that I am neither related to counsel for any party to the proceedings nor have any interest in the outcome of the proceedings.

IN WITNESS HEREOF, I have hereunto set my hand this 25th day of November, 2015.



Consuelo Grumich

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