Subject to the approval of the Energy, Environment and Technology Interim Committee

MINUTES
Energy, Environment and Technology Interim Committee
September 11 – 13, 2013
Capital Building – East Wing – Room 42
700 W. Jefferson Street
Boise, Idaho

Co-Chairman Representative Eskridge called the meeting to order at 1:00 p.m.

Members present included Co-Chairman Representative George Eskridge, Representative Maxine Bell, Representative Eric Anderson, Representative Jeff Thompson, Representative Robert Anderst, Representative Jason Monks, Representative Mat Erpelding, Co-Chairman Senator Curt McKenzie, Senator Patti Anne Lodge, Senator Russell Fulcher, Senator John Tippets, Senator Elliot Werk, and Senator Dan Schmidt. Staff members present were Mike Nugent and Cyd Gaudet.

Others present included Brenda Tominaga, Idaho Water Policy Group; Will Hart, Idaho Consumer-Owned Utilities Association; Tom Harvey, Rich Hahn, Lynette Berriochoa, Brad Bowlin, Idaho Power; John J. Williams, Bonneville Power Administration; Ken Miller, Liz Woodruff, Snake River Alliance; John Chatburn, Scott Pugrud, Idaho Governor's Office of Energy Resources; Pat Barclay, Idaho Council on Industry and the Environment; John Kotek, Gallatin Public Affairs; Brian Whitlock, Idaho National Laboratory; Jason Kreszenbeck, Lincoln Smysser, Lobby Idaho, LLC; Megan Ronk, Idaho Department of Commerce; Neil Colwell, Avista Corporation; Don Howell, Idaho Attorney General's Office; Raeleen Velton, Russell Westerberg, Rocky Mountain Power; Zack Waterman, Sierra Club; Stephen Goodson, Idaho Governor's Office; April Schneider; and Mike Hecklin.

NOTE: All copies of presentations, reference materials, and handouts are on file at the Legislative Services Office and are also available online at the Legislative Services Office website: http://www.legislature.idaho.gov.

After opening remarks **Co-Chairman Eskridge** introduced **Mike McGough**, **Chief Commercial Officer of NuScale Power**, who was testifying before the committee via telephone. **Mr. McGough** went through his experience, the history of NuScale Power, the Western Initiative for Nuclear, and the first NuScale project in Idaho at the Idaho National Lab. He pointed out that NuScale was the first company to begin the effort to develop a commercial small modular reactor. These efforts arose from when Dr. Jose Reyes was asked by Westinghouse to build a

1/4th scale prototype which they then called the AP700, and is now the AP1000. These nuclear power plants are now under construction in South Carolina and Georgia. In developing these Dr. Reyes had an idea that there may be a simpler and smaller way to develop a nuclear reactor that would have significantly different safety attributes and performance characteristics. The main part of the idea was to design a plant that could be immune to significant environmental assaults such as Fukushima. With money from a DOE grant he developed a prototype facility which is a 1/3 scale fully functional plant. They have been operating this plant for ten years, and are in the process of obtaining design certification, which they hope to have by 2019.

Mr. McGough then pointed out the difference in size between NuScale's combined containment vessel and reactor system, the typical pressurized water reactors we have today, and the plants currently under construction in Georgia and South Carolina. He then explained the process that occurs inside the power module and how it does not require electricity to make the cooling cycle and the reactor work.

Mr. McGough showed the committee how the power modules will be deployed from factory to the plant's location, and discussed how these plants will have a much lower core damage frequency than other plants. He also described how the plants can safely shut down and self cool indefinitely with no operator action, no AC or DC power, and no additional water.

Mr. McGough then discussed the Western Initiative for Nuclear (WIN), and Governor Otter's involvement with the development of nuclear energy in the west. WIN is a like-minded group who are interested in the development of a series of NuScale Small Modular Reactor projects in the west. The first of the projects which will be done in Idaho will likely be located at the INL. He then went over the projected timeline for this project.

Senator Schmidt asked **Mr. McGough** to describe the plans for spent fuel storage. **Mr. McGough** explained that spent fuel will be moved to the spent fuel storage pool for a minimum of five years. At that time they can be removed and stored on site in a dry spent fuel storage location, or can be shipped to a long term location.

Senator Werk asked **Mr. McGough** if they had built and operated a full scale module. **Mr. McGough** advised that they had a 1/3 scale operating prototype; however they had not built or operated a full scale machine. He indicated that the design was approximately 20% complete, so it would be a few years before they finish the first full scale module.

Senator Werk then asked about water use and the waste that would be generated compared to traditional reactors. **Mr. McGough** explained that there were two types of waste that are

generated from a nuclear power plant. One is low level such as gloves and booties, and the other is high level waste which is the used nuclear fuel. He said that they will have a lower volume of used nuclear fuel, but it will be similar in proportion to the amount of electricity that will be generated as compared to a larger plant. As they have a smaller power module at 45 megawatts, which is about 5% the size of a 1,000 megawatt station, they would have about 5% of the used nuclear fuel. He also said that due to their design they believed they would have a substantially smaller amount of low level waste.

To answer the question about water he explained that there were actually two parts to the answer. First was the common pool of water which contains approximately 10,000,000 gallons of water that would not need to be replenished. Additionally the operation of the plant, like most thermal power plants, requires a source of cooling on the back end of the turbine in the condenser. If one assumes that they will use water for this it will require a significant amount of water similar in portion to what is used in large coal plants or other thermal nuclear plants. He explained that the plant was designed to be able to be cooled by air which requires large cooling fans. These fans require a significant amount of electricity which results in about a 7% reduction in the net output of the plant.

Representative Anderson asked what their projected wholesale rate per megawatt would be. **Mr. McGough** indicated that it would be in the 8 to 9 cent per kilowatt range, which is higher than the 5 -6 cents that he believed our cost of electricity is at this time. He then addressed why they would build a plant that increased the cost of electricity to the consumer. He indicated that utilities believe that in the next ten to fifteen years there will be some penalty on the use of carbon producing, greenhouse gas emitting generation stations. They also recognize that it is becoming more and more difficult to make older coal stations comply with greenhouse gas regulations. Also, many believe that the world market for natural gas will dictate a normalization of costs around the world, and they want to be prepared with options, as it may be that 8 or 9 cents a kilowatt hour will be very competitive ten years from now with conditions that are difficult to predict.

Representative Anderson asked **Mr. McGough** if he could provide the committee with their scale of what the different costs would be for retail sales in the markets for coal, gas and wind, along with NuScale's costs. He also asked him to include the old style, heavy reactor costs over the years. **Mr. McGough** clarified the question by asking if **Representative Anderson** was looking for a retail cost comparison of electricity generated by different sources, and stated that he would be happy to supply that data.

Co-Chairman Eskridge thanked **Mr. McGough** and indicated that the committee would be interested in continuing to follow NuScale's progress. **Mr. McGough** expressed NuScale's appreciation for the support that they had received from the committee, the Idaho State

Legislature and the Governor, and that they felt that the State of Idaho was the ideal place for their project.

Co-Chairman Eskridge indicated that next on the agenda was a consortium of investor owned utilities to talk about the future of coal.

Russell Westerberg then introduced **Chad Teply, Vice-President of Resource Development and Construction for PacifiCorp Energy** which is represented in Idaho as Rocky Mountain Power.

Mr. Teply indicated that his primary role was to coordinate with their environmental services, regulatory personnel, as well as the integrated resource team and others within the organization. He indicated that he spent most of his time dealing with their major capitol resource investments which would be either new facilities, or administration of retrofits to their existing coal fleet. He said that he also spends a lot of time in front of the regulatory Public Utility Commissions in the various states within which they operate. He explained that PacifiCorp energy is the generation side of Rocky Mountain Power so the generation assets that he works on serve not only Rocky Mountain Power in Idaho, Wyoming and Utah, but also serve Oregon, Washington and California.

Mr. Teply went through an overview of PacifiCorp which serves 1.8 million customers with nearly 12 gigawatts of generation capacity. As of yearend 2012 55% of their generating capacity was driven by coal, 25% was driven by natural gas, and with hydro, wind, and the other renewables making up the balance of the mix. He advised the committee that they are currently building a 645 megawatt natural gas fired combined cycle facility in the Salt Lake area. He also advised that every year PacifiCorp reviews and revisits their Integrated Resource Plan process.

He explained that recently the EPA had proposed their Federal Implementation Plan for the state of Wyoming as it pertains to nitrogen oxide (NO_x) emissions. He then discussed the history and intent of Regional Haze Rules which he pointed out are not health based, but designed to achieve natural visibility conditions in specific national parks and wilderness areas by 2064. He advised that in the majority of the 26 coal-fueled units in PacifiCorp's fleet the equipment has been installed that removes sulfur dioxide ($SO_{2)}$, however the area now in contention are the nitrogen oxide ($NO_{x)}$ emissions. Due to this PacifiCorp will be wholly or partially responsible for installation of 12 selective catalytic reduction systems, 2 selective non-catalytic reduction systems, and installation of low NO_x burners at three units.

Since 2005 PacifiCorp has committed $900 million in capital expenditures in Wyoming resulting in NOx, SO_2 and PM emission reductions of 52%. Approximately $900 million ($600 million in Wyoming) remains to be spent through 2022 to meet state and federal implementation plans. The additional emissions controls required by the re-proposed EPA Regional Haze Federal

Implementation Plan in Wyoming will cost in excess of $300 million and will provide imperceptible visibility improvement. These amounts do not address any future EPA action in Utah, which PacifiCorp is anticipating, and where they have spent approximately $400 million to comply with Utah's Regional Haze requirements.

He then discussed the environmental regulations that are health based, such as Mercury and Air Toxic Standards which they are well situated to comply with by the 2015 deadline. With respect to the National Ambient Air Quality Standards, which are evolving, they are also positioned very well except for in a couple of their units. He pointed out that the fine particulate and ozone standards will largely determine where future resources can be built if they are fossil fuel fired units.

There are also other environmental regulations such as the Coal Combustible Residuals in which they expect to have an EPA rule by 2014, which should also be about the time of the Effluent Guidelines ruling. He indicated that where there was some indication as to where those rules were headed they have incorporated the cost of compliance at each of their facilities. The Clean Water Act is focused at facilities that use water for once through cooling, of which they have one facility, so it is not a major issue for PacifiCorp, however it will be for other entities in the industry.

As for Greenhouse Gas Regulations he explained that they had been incorporating proxy carbon compliance costs for some time, however the President's Climate Action Plan put into place a timeline that did not previously exist, and they are expecting a proposed rule for new resources within the coming days. This will set the tone on the legal side and will likely trigger the litigation reviews on the viable way to use the rule for new sources to create rules for existing sources. However rules for existing sources will not be finalized until 2015, giving the states a year to provide a state implementation plan.

He then gave an overview of their Integrated Resource Plan (IRP), and pointed out that they had seen some significant flattening of load forecasted growth which has pushed the time frame for any new resource build beyond the 2020 to 2022 time frame. He also advised that in each of their IRP's they allow the model that looks at their system to consider taking every one of their coal fueled units out of service by natural gas conversion, or retirement ,as an alternative to compliance costs.

Mr. Teply talked about PacifiCorp's Carbon plant which is a low cost facility to run, however there is no mechanism within which they can make the facility compliant with the Mercury and Air Toxic Standards, so they are heading towards retirement of the plant in 2015. However they will have to invest $40 to $50 million in transmission infrastructure to beef up the system for voltage control as those units are removed.

He also discussed the status of Naughton Unit 3 in Wyoming. The state's requirement for Regional Haze compliance at that plant called for the installation of a Selective Catalytic Reduction System (SCR) and a baghouse. PacifiCorp determined that this was too significant an investment to cover for a 330 megawatt unit. This plant also had key environmental compliance drivers such as Coal Combustion Residuals Rulemaking, the Plant Effluent Guidelines and Clean Water Act which all factored into their decision making. So they have proposed to the state that they will run the unit on coal through 2017 and then they will convert it to natural gas. He pointed out that once a coal unit is converted to gas it will no longer be a base load resource; rather it will be a peaking source because the economics of burning gas in the unit puts it low in the dispatch stack.

Co-Chairman Eskridge asked which two plants they were going to retire. **Mr. Teply** advised that the two plants were the carbon units near Price, Utah.

Co-Chairman Eskridge confirmed that in one case they were retiring a plant and in another case they were converting a plant. **Mr. Teply** replied that was correct, and that the key driver was that the physical location of the carbon plant was very constrained, as it was in the mouth of a canyon, so they could not install the emissions controls to meet the requirements. Secondly, because of the physical location, which is literally in a hole, they would not be able to demonstrate compliance with the current National Ambient Air Quality. At Naughton, from an air modeling prospective, they can demonstrate compliance, and they have plenty of footprint. He said that they could have installed the controls but those controls were not cost effective as they were being asked to install an SCR at over $100 million dollars , and a baghouse which would be in the $70 million range. So they are going to convert it to gas and continue to use it as a viable resource for summer peak, but it will no longer be a base load resource for them.

Co-Chairman Eskridge asked if the two carbon plants were base load units. **Mr. Teply** answered that they were. **Co-Chairman Eskridge** asked if that resource would be replaced with gas. **Mr. Teply** explained that those plants would be coming off-line in 2015 shortly after they bring their new 645 megawatt combined cycle facility on-line. Plus they had other ways to bridge the gap, such as energy efficiency gains, which would help them accommodate loss of the plants. **Co-Chairman Eskridge** asked if they were bringing the new facility on early because they were retiring the two carbon units. **Mr. Teply** said that bringing the 645 megawatt facility on line had more to do with how much transmission investment they had as the two plants were actually more tied by transmission constraints rather than timing of the actual project. **Co-Chairman Eskridge** asked if the cost of the new plant was offset by the cost of the transmission upgrades they would have had to do. **Mr. Teply** said that the plan for the new plant was already in process, as it was needed, and then the final Mercury and Air Toxic Standard Rule (MATS) came out with the requirements for carbon plants. As they could not comply with those rules

the carbon plants had to be retired. And because they had brought the new resource on, that impacted what their transmission solution looked like around the carbon plant, which lowered that cost, but it was not an offsetting cost by any stretch. **Co-chairman Eskridge** asked if there would still be a rate impact to which **Mr. Teply** replied that there would be an impact.

Co-chairman Eskridge then asked if they were converting Naughton 3 because it would be less expensive than retro- fitting their existing plants. **Mr. Teply** said that was correct. **Co-chairman Eskridge** commented that would also have a rate impact, plus they were losing base load. **Mr. Teply** explained that the driver for Naughton 3 was also a compliance obligation. He explained that status quo they had no operating costs, but they had to weigh if it was more cost effective to install the compliance obligations, to convert to gas, or to shut down the plant. He indicated that converting to gas was the least cost compliance alternative.

Co-chairman Eskridge asked if Naughton 3 became a peaking resource how they would replace the base load. **Mr. Teply** said that for the most part that would be absorbed by other resources. **Co-chairman Eskridge** asked if they were then reducing their reserve that would be used to take care of outages, maintenance issues, or other emergency situations. **Mr. Teply** answered that they would still plan to their 12 – 13% reserve margin. Over time what they would see in their IRP was that their short-term or long-term market contracts would become part of the mix so they could offset the loss of 330 megawatts of base by long term contracts that are firm, or other programs such as energy efficiency, or DSM programs. **Co-chairman Eskridge** commented that one of the saving factors was the way they could operate their system, plus the leveling out of growth. **Mr. Teply** said that was correct.

Co-chairman Eskridge asked how confident they were that the leveling of growth was long term, and not the result of economic conditions. **Mr. Teply** answered that each year they review the base assumptions of their IRP. As they reassess and identify areas in their load that they cannot accommodate going forward, the plan will pull in the least cost resource such as a new gas peaker, a wind farm, or a new solar plant, depending upon their assigned capacity values. In answer to **Co-Chairman Eskridge's** comment that they would still lose time in their planning horizon **Mr. Teply** said that they would technically lose a year. He also said that if they saw a tremendous spike it would change their options for resources. For example to build a combined cycle facility was a four to five year process, whereas to build a simple cycle peaking unit that time frame could be cut in half. So if they saw a spike and needed to respond quickly it would change their options as to replacement resources, but not eliminate the ability to comply. **Co-chairman Eskridge** stated that would also limit their ability to control cost. He then asked what impact the environmental requirements will have on rates. **Mr. Teply** said that was difficult to answer, but gave the example of the EPA's action in Wyoming where they were proposing $300 million in environmental requirements and stated that the effect on rates

would be less than 3%. **Co-Chairman Eskridge** confirmed that was a 3% impact for something that had no incremental benefit, and **Mr. Teply** agreed and said that was why they had submitted their comments to the EPA

Representative Anderson asked what their plan was to fill the void left by the retirement, or conversion to peakers, of their base loads in the future. **Mr. Teply** said that they would start to add some combined cycle resources in the 2024 time frame and then one thereafter in 2028. These would consider being more dispatchable resources, but could be called base load because they were combined cycle. He said that they would also be looking at the addition of 400+ megawatts of wind in the same time frame. He indicated that they would not get a lot of capacity from wind but they were able to plan a 30% capacity factor. He said that knowing that the costs were incurring, and knowing that they had an older fleet, going forward there would be some significant step changes. However they would add gas and renewable resources, as well as more penetration from energy efficiency type programs. So that would be where they would find the balance, in transitioning away from coal to a lower emitting, natural gas dispatchable type resource, along with renewables and efficiencies.

Representative Anderson asked if it was more expensive as they integrated all of these resources. **Mr. Teply** answered that more stringent compliance always has a cost.

Representative Anderson commented that he did not see any nuclear integration in their planning. **Mr. Teply** said that they did not consider nuclear to be available until after 2025.

Senator Schmidt asked about the way **Mr. Teply** had phrased conservation as addressing growth needs. **Mr. Teply** said that fundamentally conservation did not address load growth as much as it controlled growth.

Senator Schmidt asked if conservation had peaked or if it was something that they predict would grow. **Mr. Teply** pointed out that there was quite a bit of discussion about the energy efficiency market in their IRP. He said that what they tended to see were emerging programs that were not yet fully subscribed such as energy reduced lighting and better insulation. In the six states in which they do business he indicated that there is still head room in those programs.

Senator Schmidt asked if he could describe the headroom that Idaho has in terms of conservation. **Mr. Teply** advised that he would have to get back to **Senator Schmidt** with an answer to that question.

Next to address the committee was **Tom Harvey, Manager of Joint Projects, from Idaho Power**. He indicated that his group manages the interests that Idaho Power has in three coal fired power plants, one coal mine, and the fueling of those power plants. He then reviewed Idaho Power's service areas in which they have approximately 500,000 customers. He explained

that approximately 47% of their resources come from hydroelectric facilities, 31% come from thermal facilities, and 21% are from natural gas plants, all of which account for a combined 3600 megawatts of generation capacity. He then reviewed for the committee the three coal fire power plants which they co-own; the Jim Bridger near Rock Springs, Wyoming, North Valmy near Valmy, Nevada, and Boardman in Boardman, Oregon.

Mr. Harvey indicated that the major impacts that environmental regulations currently have on Idaho Power are:

1) Jim Bridger Units 1–4, which will require installation of Selective Catalytic Reduction (SCR) to comply with Regional Haze along with mercury controls.

2) North Valmy Unit 1 which will require installation of a Dry Sorbent Injection system to control hydrochloric acid.

3) Boardman which will require installation of a Dry Sorbent Injection system and an Activated Carbon Injection system for mercury controls.

Based on the requirements of installation of these controls Idaho Power initiated the Coal Unit Environmental Investment Analysis to examine these investments and compare them to alternatives such as conversion to natural gas or replacement with a combined cycle combustion turbine. This was done with a combination of third party consultants, partner input, and Idaho Power analysis while also aligning as much as possible with the 2013 Integrated Resource Planning Process, which was ongoing at the same time. The study supported the above investments at Jim Bridger and the North Valmy MATS compliance. As the Boardman controls were required due to agreements made with the State of Oregon Department of Environmental Quality the study did not focus on those.

Although Idaho Power believes that were not required to file for a Certificate of Public Convenience and Necessity (CPCN) they chose to initiate a public process to discuss the important issues regarding coal fire generation. On June 28, 2013 Idaho Power filed for a Certificate of Public Convenience and Necessity with the Idaho Public Utilities Commission related to the investment in the two SCRs at Jim Bridger Units 3&4.

On June 28th 2013 Idaho Power also filed an Integrated Resource Plan which showed Jim Bridger and North Valmy as operating during the entire 20 year planning horizon, and for Boardman to cease coal-fired operations by the end of 2020.

To highlight the importance of coal-fired generation for Idaho Power **Mr. Harvey** shared a chart which showed the fuel generation mix in Boise, Idaho on July 1, 2013 when the temperature hit 110 degrees, and broke a long standing system peak. The chart showed coal's contribution of

almost 1,000 megawatts of a 3,402 peak. At the time of the system peak wind contributed 48 megawatts.

Mr. Harvey concluded by pointing out that:

- Coal is included in their 20 year horizon for an Integrated Resource Plan.
- Coal is a very important base load resource.
- Coal generation is Idaho Power's lowest cost resource after hydropower.

Co-Chairman McKenzie asked about the peak on the chart that **Mr. Harvey** had shared and inquired what program the demand response was from. **Mr. Harvey** indicated it was the commercial, industrial flex peak program.

Co-Chairman McKenzie asked how many megawatts it was during the peak period. **Mr. Harvey** indicated it was about 35**. Co-Chairman McKenzie** asked what wind was at the time, and **Mr. Harvey** indicated that it was 48 at the peak.

Co-chairman Eskridge commented that at the peak wind was at its lowest contribution. **Mr. Harvey** indicated that on hot summer days the wind just does not blow much.

Representative Anderson asked how much wind capacity Idaho Power contracted. **Mr. Harvey** said it was his understanding that they had about 678 megawatts of wind which included Elk Horn.

Representative Anderson then referred to a chart in Idaho Power's IRP on page 78. He said that there was a lot of confusion about what certain resources cost, and that this was one of the better charts he had seen. He asked that **Mr. Harvey** provide a copy of that chart to the committee.

Co-Chairman McKenzie asked if the Boardman plant was going out of commission in 2020, and what the reason for that was. **Mr. Harvey** answered that they were ceasing coal-fired operations because Portland General Electric was going to be conducting test burns of bio-mass in 2014 or 2015, so there was a possibility that they may refuel the plant at the end of the coal-fired operations. He said that Boardman was also subject to the Regional Haze Rules and MATS, but through the agreements with the state certain investments were made along with the closure.

Senator Fulcher referred to one of **Mr. Harvey's** slides and asked why Langley and the gas peakers were separated out, he also asked what was meant by gas peakers. **Mr. Harvey** explained that Langley Gulch was a combined cycle unit, which was much more efficient, and

the peakers were simple cycle units that had higher heat rates, and operated after Langley was operating, because of the efficiencies.

Senator Werk asked if a question about net metering was appropriate at that time. **Co-Chairman Eskridge** said he thought they should leave that to another forum, or it might be an appropriate question for **Commissioner Kjellander** who would be before the committee later that day.

Senator Werk asked if Idaho Power had been involved in the development of storage technology for wind energy.

Mr. Harvey referred that question to **Mark Stokes, Director of Water and Resource Planning for Idaho Power**, who is in charge of the IRP process. **Mr. Stokes** said that as part of the IRP process they were looking at storage technologies; however they did not directly participate in any type of research or development associated with those technologies.

Senator Schmidt asked if there would be any technology which would increase the efficiencies or productivity of hydropower. **Mr. Stokes** indicated that hydro was a fairly old, developed technology, and the only gains they would see would be small efficiency gains through upgraded runners on units.

Co-Chairman Eskridge asked what how changing Boardman to gas, along with the cost impacts of the Bridger units would impact rates. **Mr. Harvey** said he did not have the information as to the individual impacts.

Co-Chairman Eskridge asked if it would be reasonable to assume that rates would go up due to those activities. **Mr. Harvey** answered that if that was the only thing happening at the time the answer would be yes. He explained that he was a coal operation person and not a regulatory representative so he did not want to speak to what increases may occur at a future time.

Co-Chairman Eskridge said that he was just trying to get a general feel about the impacts good or bad, of the changing energy strategy in terms of coal use. **Mr. Harvey** said that obviously the increased environmental investments at the coal units would increase the cost at each particular unit.

Co-Chairman Eskridge pointed out that when they are not getting an incremental increase in the visual impact, and there was still an increase in rates, it has to make one wonder what the benefit is in the long run.

Next to present was **Neil Colwell, a lobbyist representing Avista Corporation**. He went through an overview of the company as well as their goals and processes in completing their Integrated Resource Plan. **Mr. Colwell** then described Avista's generation mix in owned and contracted

generation with 48% in hydro, 35% natural gas, 9% coal, and the remainder in wind and biomass. He also indicated that Avista was a relatively low producer of greenhouse gases in the total mix of their generation compared to 100 other producers.

In reviewing their coal generation he advised that although they have limited generation from coal, it is baseload power, it runs 24/7 when it its operational, and it is a very low cost resource for their customers. They have one coal resource, of which they are partial owners, at Units 3&4 in Colstrip, Montana for a total of 220 megawatts of capacity. Due to past investments in environmental controls the plant is in the top 10% of coal-fired plants for lowest SO_2 emissions. In the last two years they have installed NO_x controls which reduced these emissions by 80% and put it in the top third of coal-fired plants for lowest NO_x emissions. They have also achieved a 90% reduction in mercury emissions. Although the increasing emission standards are still in flux they believe they are on target to meet the Hazardous Air Pollutants, Coal Ash Management, Effluent Discharge, and Regional Haze standards with the possibility of additional control technologies in the future. In summary he pointed out that Colstrip is their one coal resource, it is an important component of their generation portfolio, and even in meeting expected future requirements it remains a cost-effective resource.

Co-Chairman Eskridge asked how the cost of Colstrip compared to their hydro resources. **Mr. Colwell** answered that their two dams provided power at a very low cost; however they have been able to keep costs at the coal plant fairly low.

Co-Chairman Eskridge said that given the positive information about the Colstrip plant he wondered why he was hearing that coal generation was a non-entity due to environmental regulations. He indicated that from what he understood the cost of meeting the environmental regulations that were expected was almost a death knoll for new coal-fired generation. **Mr. Colwell** said that based on when each plant was built it may already have certain levels of environmental controls that are better than older plants. He explained that some of the older plants are shutting down because they require a great deal of environmental upgrades. He added that the directives regarding new coal plants in regard to greenhouse gas emissions are making the generation of coal very expensive.

Co-Chairman Eskridge said it sounded like coal was not a viable resource. **Mr. Colwell** said that right now the large issue with coal was greenhouse gas because they burn a substance that creates carbon dioxide. He explained that was what made natural gas attractive; as it produces half as much carbon dioxide for the same energy output.

Senator Tippets asked if the changes made to Colstrip in achieving their current environmental status were made as a result of regulatory mandates, and why it seemed that this facility was so far ahead of many other coal-fired facilities. **Mr. Colwell** answered that the bulk of the changes

were as a result of regulations or state law changes, and gave an example of the lower mercury standards adopted by Montana. Also, since the plant was built after adoption of the Clean Air Act environmental controls were built into it.

Senator Schmidt asked what year was reflected in their graph regarding generation mix. **Mr. Colwell** advised that it was 2012.

Senator Schmidt then referred to a graph from the Idaho Strategic Energy Alliance from 2011 that described Avista Power fuel mix, and asked if that was different than generation mix. **Mr. Colwell** said that he thought the intent of the graphs was the same; however this was a difficult question due to the factors of company owned generation, contracts, purchases or technical problems with the facilities, and that the numbers can change depending upon how they are calculated.

Representative Anderson asked **Mr. Colwell** for a copy of the graph which **Senator Schmidt** had referred to.

Senator Fulcher also asked the staff to provide copies of the presentation materials to the committee.

The committee recessed at 3:35 p.m. for a short break.

Co-Chairman Eskridge called the meeting back to order at 3:50 p.m. He went over the appropriate attire and meeting time for the tour the following day to the Western Idaho energy facilities. He then welcomed **Commissioner Paul Kjellander from the Idaho Public Utilities Commission**.

Commissioner Kjellander indicated that the three issues he would be talking about were the major cases which they had been involved in over the summer; the general Public Utility Regulatory Policies Act (PURPA) case, the Net Metering case, and the suit from the Federal Energy Regulatory Commission (FERC) regarding several PURPA contracts. He advised the committee that as he had been advised not to talk much about a current litigated case he had provided them with a press release so they could see the IPUC's, as well as other state's thoughts, regarding the unprecedented FERC suit. He indicated that the projects that are referenced in the FERC suit, if FERC should win, would represent $560 million that would need to be collected from Idaho customers.

Commissioner Kjellander explained that the PURPA case dealt in large part with one of the issues which they had been facing at the commission, which was considered to be gaming by some of the developers. These developers had taken some large projects and broken them into smaller projects which forced the utility, and ultimately the customer, to have to pay for the

recovery of those costs. What they were gaming was FERC's one mile separation rule which says that if your projects are one mile apart they could be considered separate projects. Because the Idaho PUC had established a very generous PURPA contract scenario whereby the project size was 10 average megawatts delivered, that became the focus point for how developers would break up the large projects. He indicated that if the project sizes had been smaller, based on PURPA sizes that they were allowed to set, the gaming likely would not have happened. However it was the desire of the commission to have something that helped developers with the economy of scale, and looked forward to bringing on some wind projects in a reasonable size.

He indicated that even though PURPA is a mandatory purchase program established by the Federal Government, states have the discretion as it relates to the size of the projects and the cost. The cost deals with what is called the Published Avoided Cost Rate. In looking at the problems they had to deal with they had to get the price right because the price was based on a forecasted natural gas rate which wasn't updated regularly, and as a result they had cost rates that were out of touch with the current reality. The other problem they needed to address was the gaming issue.

The IPUC realized that the types of projects that could game the system were intermittent resources, which were largely wind and solar. To address the gaming issue they dealt with size, so instead of 10 average megawatts delivered projects, their order said that it should be 100 KW, which is much smaller, and the minimum which FERC allows under PURPA. Their hope was that would eliminate the desire to break up the projects since trying to break up a project that is 10 average megawatts, separated by a mile, was easier than they had anticipated. But they did not believe that anyone would want to go through the expense and difficulty of trying to deal with siting to break up 100 KW projects by a mile of separation. Thus they believe that they have been able to address the gaming issue.

For other projects such as bio-gas, bio-mass, and small hydro they left it that these projects could go up to 10 average megawatts delivered, since they had not had any problems with those. For projects such as wind and solar that are above 100 KW, the developers can come in with projects that are up to 80 megawatts, and those projects will go through what is called the IRP Methodology and the price will be based on the need for that power.

To deal with the avoided cost rate they set up a mechanism that is more automatic by locating an agreed upon report which contains an annual adjustment for natural gas forecasting. They will now use the natural gas forecasted price, and will change the avoided cost structure at the same time every year. So now the avoided cost rate which a contractor can get under the published rate for a project that comes online in 2013 the contractor would be looking at about $28 per megawatt hour. This is dramatically different from where it was 18 months ago when

the price for avoided cost, which was considered to be out of touch with reality, was somewhere near $65 per megawatt hour. With the annual adjustment, each year they will review the forecasted component and the new rate will roll out. He stated that it was very easy for a developer to go onto the IPUC website and see what these scales will be over the 20 year cycle of a 20 year contract.

One of the other items that they dealt with was the issue of the Renewable Energy Credits (RECS). The way this was resolved, under the order, was that for all projects that received the published rate, up to 10 average megawatts for firm resources and 100 KW for the wind and solar, they could keep the RECS. For those projects that go into the negotiated Integrated Resource Planning process the RECS would be split 50/50, unless negotiated differently in the terms and conditions of the contract. This seemed to be the most reasonable way to address the RECS, and it also kept the published avoided cost rate component fairly pure as it related to renewable energy credits.

Commissioner Kjellander advised that Idaho Power alone has 119 PURPA projects under contract that represent approximately $3.6 billion dollars that needs to be recovered throughout the remaining life of those contracts. In looking at where Idaho utilities are with regard to the percentage of power that is renewable, other than large scale hydro, Idaho Power and Rocky Mountain Power are well over 20% of their total resources being renewable, and the majority of that comes from the PURPA development that has been seen in this state.

He then addressed the net metering case and said that this case brought out a very good range of public comments and active participation in the process, which has not always happened in the past. In this instance they not only had great participation, they also had some very well thought out comments, and he believed it was one of the best cases they had as pertains to the public hearing process. He explained that net metering is a way in which a customer can offset their usage by putting in some type of generation resource such as solar, small hydro or a wind turbine. He said that it was never intended to be a scenario where a customer could sell power to the utility, and get a check, without having any of the risk of having to deliver power, so it was never intended to be a mini PURPA scenario. In fact with net metering there are no contracts, which means that if for some reason the customer's generation resource should break or for some reason was not delivering power, the customer is not out anything.

Commissioner Kjellander said that the IPUC wanted to make a clear bright line distinction between net metering and PURPA generation contracts. So in the decision they said that they did not want to encourage customers to oversize the projects to get checks cut back to them, as net metering was only intended to offset the customer's load. As far as power that is generated in excess of the customer's load that can continue to accrue and can be used against future power consumption; however the customer will not be cashed out. In this way they

were trying to eliminate the possibility, at an early stage in net metering, to eliminate the possibility of it evolving into something that they didn't want it to evolve into without having a direct opportunity to intervene. He stated that due to this net metering is now its own clearly defined project, but this does not preclude the IPUC from looking at other projects which have different parameters and different rules of operation. He indicated that for the vast majority of customers that net meter today nothing has changed as there were only a few customers that were actually receiving payment. The IPUC believes that going forward this will give them ample time to look at distributive generation projects and programs in isolation without having it come to them as an evolved problem out of another program.

Co-Chairman Eskridge asked if the credit in net metering could be applied to future bills from the utility. **Commissioner Kjellander** said that was what the order stated.

Co-Chairman Eskridge asked about the issue of investments which utilities made in distribution facilities where their return to pay back that investment is now somewhat diminished. **Commissioner Kjellander** said there is always the potential for some lost revenue opportunities but they wanted to insure, through the order, that they could have a net metering program that could be successful. They also wanted to address the fixed cost issue because as they see future load growth there would still be opportunities for the utilities to make money, however they wanted to insure that the fixed cost was paid for. He explained that if someone wanted to be connected to the grid in the event that they needed to be able to draw power at some time, then they needed to pay their fair share of the fixed costs of the system.

Senator Werk said that he wanted to compliment the commission on the elegant solution to the net metering case. He then asked about the issue of increasing the cap on net metering. **Commissioner Kjellander** advised that increasing the cap was on the total amount of net metering capacity, not on each individual's home. They basically said that they were not going to have a cap; however they were going to monitor it.

Co-Chairman Eskridge said that he wanted to thank **John Chatburn** for the new Idaho Energy Primer which the committee had received. He reminded the committee that they would be leaving at 8:30 a.m. the following day.

The meeting was adjourned at 4:15.

Thursday, September 12, 2013

The committee toured the Langley Gulch Power Plant, the gas fields and production facilities for natural gas in Payette County, and the US Geothermal/Idaho Power Plant outside of Vale, Oregon.

LANGLEY GULCH POWER PLANT

Mr. Rich Hahn of Idaho Power explained to the Committee that simply, gas-fired plants are based on aircraft jet engine technology. Like coal-fired plants, the natural gas fuel is burned. But instead of steam, the hot compressed exhaust gases expand through a turbine to generate electricity. **Mr. Hahn** said to fulfill Idaho Power's commitment to meet growing electricity demands, the company added a new generation resource in July 2012. The Langley Gulch Power Plant is a highly-efficient combined-cycle combustion turbine (CCCT). It uses two turbines to generate electricity—one with natural gas, the other with steam. The exhaust heat from the combustion of natural gas is used to make steam, which drives the steam turbine. The plant's generating capacity ranges from 300 megawatts in the summer and 330 megawatts in winter.

Mr. Hahn said in addition to providing electricity for Idaho Power's customers, Langley Gulch helps integrate intermittent and alternative resources such as wind and solar from area projects in our system. The plant is located on 137 acres in rural Payette County near the City of New Plymouth.

NATURAL GAS FIELDS

After touring Langley Gulch the Committee headed to the natural gas wells in Payette County. While driving there **Mr. David Hawk** gave a very thorough description of the geology and topography of the Western Treasure Valley to make the extraction of natural gas possible. He said two permits have been approved by the Idaho Department of Lands to drill wells in the county and a third one has been submitted and is awaiting approval. **Mr. Hawk** said with the apparent success of seismic testing that was done in the summer in 2012, a lot of activity has been happening in Payette County with Alta Mesa and other companies interested in exploring and producing natural gas.

Mr. Hawk added that Alta Mesa is in the process of connecting the gas pipelines from already existing pipelines. Though there is nothing official, he said that the location of the pipelines could run very near to Idaho Power's Langley Gulch natural gas-powered power plant which the Committee had just toured. **Mr. Hawk** said the extraction station needed to collect the natural gas has yet to be determined, though rumors have said that it might be near Langley Gulch, as well.

NEAL HOT SPRINGS GEOTHERMA PLANT

Following the tour of the natural gas fields, the Committee headed to tour the Neal Hot Springs Geothermal plant. Neal Hot Springs is located in Eastern Oregon near the town of Vale, the

county seat of Malheur County. It is an annual average 22 net megawatt power plant, consisting of three separate, 7.33 net megawatt modules, which has been constructed and is undergoing commissioning. The facility achieved commercial operation under the terms of the power purchase agreement on November 16, 2012. US Geothermal representatives aid generation from the facility during the second quarter of 2013 totaled 30,015 megawatt-hours. On June 27, 2013, the Company accepted substantial completion by the EPC contractor of all three of the Neal Hot Springs units.

The history of the plant is as follows: On February 26, 2009, the Company submitted a loan application for the Neal Hot Springs project to the DOE's Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Solicitation loan guarantee program under Title XVII of the Energy Policy Act of 2005. The financial closing for the DOE loan guarantee took place on February 23, 2011 which secured a $96.8 million loan guarantee from the Department of Energy and a direct loan from the U.S. Treasury's Federal Financing Bank. The DOE loan is a combined construction and 22 year term loan.

In July 2010, US Geothermal applied to the Oregon Department of Energy ("ODOE") for the Business Energy Tax Credit ("BETC"), which allows an income tax credit for up to $20 million in qualifying capital expenditures for a renewable energy project. On December 31, 2012, ODOE issued a Final Certificate Conditional for the Neal Hot Springs project BETC which can be sold to a pass-through tax partner and monetized at a cash value of $7.36 million. The final certificate was issued on March 1, 2013. It is anticipated that the BETC cash may be available during the second half of 2013.

The Power Purchase Agreement for the project was signed on December 11, 2009 with the Idaho Power Company. The Power Purchase Agreement has a 25 year term with a starting average price for the year 2012 of $96.00 per megawatt-hour and escalates at a variable percentage annually. On May 20, 2010, the Idaho Public Utilities Commission approved the Power Purchase Agreement with no changes to the terms and conditions. Power generated during 2013 will be paid at an average price of $99.00 per megawatt-hour.

Friday, September 13, 2013

The meeting was called to order by **Co-Chairman Senator McKenzie** at 8:30 a.m.

Members present included Co-Chairman Senator Curt McKenzie, Senator Patti Anne Lodge, Senator John Tippets, Senator Elliot Werk, Senator Dan Schmidt, Co-Chairman Representative George Eskridge, Representative Maxine Bell, Representative Eric Anderson, Representative Jeff Thompson, Representative Robert Anderst, Representative Jason Monks, and Representative Mat Erpelding. Staff members present were Mike Nugent and Cyd Gaudet.

Others present included Michael Guryan, Idaho Regional Optical Network; Priscilla Salant, University of Idaho; Ann Joslin, Idaho Commission for libraries; Elli Brown, Veritas Advisors, LLP; Betsy Russell, The Spokesman-Review; Brenda Tominaga, Idaho Water Policy Group; Neil Colwell, Avista Corporation; Bill Gillis, VisionTech360; and Lynda Bennett, Telehealth Task Force.

Co-Chairman McKenzie thanked **Mr. Nugent** for helping to set up the tour the prior day and said that it had been very informative and gave them a good perspective on energy production. **Co-chairman Eskridge** agreed that it was a great trip, and thanked LSO for arranging it. He also agreed that it gave them a better perspective as they dealt with energy issues.

Co-chairman McKenzie advised that they would be changing their focus a bit and would be talking about broadband technology. He explained that first **Mike Field, Executive Director of the Idaho Rural Partnership,** would be speaking to the committee via phone.

Mr. Field explained that Link IDAHO is a 5 year project and is technology and provider neutral. He stated that it was actually put together to map broadband needs. He indicated that in the more populated areas of Idaho they do not see a problem with broadband. However there is a need in the smaller rural communities, or the areas approximately 3 miles outside of the more populated areas, if they do not have good wireless connectivity. He indicated that the area that they are currently struggling with is in the panhandle of Idaho.

Mr. Field indicated that his role is to collaborate with various key sectors together to work together so they are not wasting any precious resources. He advised the committee that, for Idaho, they have made the decision that the private sector will deliver the needed broadband. He then compared Idaho to Vermont in that we have many of the same difficulties in providing broadband. He indicated that Vermont applied for and received over $200 million in grants to help them expand their system to all portions of their state, and in comparison, Idaho has received only $10 million.

Mr. Field advised that the first panel to speak would include **Mike Guryan from IRON**, and **Linda Bennett** from the **Telehealth Task Force**. The next panel included **Bill Willis** from the **LinkIDAHO Project, Paul Reyes** and **Priscilla Salant** from **the University of Idaho**. The third panel included **Ann Joslin** from the **Idaho Commissions for Libraries**, **Carl Dye**, and **Vince Rinaldi** from **Silver Valley**.

Mike Guryan advised the committee that the Idaho Regional Optical Network (IRON) is a part of the national and international research fabric and is focused on supporting research and education in Idaho. They are a regional optical network that provides access for education to Internet2, the National Lamba Rail, and very high speed, low cost bandwidth. Their purpose is to connect the Universities to each other, to connect the INL to Internet2, and to connect the

Idaho Education Network to all of those institutions and provide opportunities for dual credit and learning opportunities. They also support network infrastructure, assist in collaborative research between R&E and higher educational facilities, and support applications and services tailored to research and education. The Idaho Regional Optical Network spans the state with a bandwidth of 10 gigabits per second and also connects to the Northern Tier Network Consortium.

IRON is a 501 (c)(3) that was formed 5 years ago by the Charter Associates who are focused on moving the state across the digital divide. These associates provide funding to provide benefits to the entire state, and receive no state funding. They were formed because of many factors including lack of competition in many parts of rural Idaho and Washington, lack of connection between higher education institutions, and to bring associates together in a collaborative organization. Since 2005 they have grown from 3 connection points to 16 connection points statewide which has facilitated many improvements for the state. **Mr. Guryan** also discussed the grant that they received last year from the Albertson Foundation, and reviewed some of the projects they are working on as a result of that grant.

He indicated that IRON has helped reduce connectivity costs for the universities as they are able to purchase very large pipes at very low cost per megabit which the universities and associates are then able to share. They also support the K-12 schools and libraries to provide high speed access to distance learning content.

Senator Schmidt said he was trying to understand the concept as it sounded like IRON was a not-for-profit collaborative trying to get bandwidth between people who needed it, however **Mr. Field** had said that Idaho wants to use the private sector, as opposed to the public sector, to solve bandwidth issues. He also asked if an Idaho hospital needed bandwidth would they have to pay for what they used, or if their membership in the Idaho Hospital Association would give them access.

Mr. Guryan answered that it was a little bit of both, as there is an annual associate's fee, but members pay based on usage. He explained that IRON actually purchases from public carriers in aggregate so they receive a lower cost than any of the members could individually obtain.

Senator Schmidt asked if a medical provider, who was not a member of the Idaho Hospital Association, but wanted a lot of bandwidth, could use their services. **Mr. Guryan** advised that if the entity was not a part of a non-profit or government institution that IRON could not serve them.

Co-Chairman McKenzie asked if the service that they provided to Post Falls and Coeur D'Alene included businesses or any private entities. **Mr. Guryan** said that non-profits in those areas could avail themselves of IRON's services and gave the examples of North Idaho College and the

North Idaho Rural Health Consortium. He explained that they do not do residential or for profit commercial connectivity.

Co-Chairman Eskridge asked if they were buying bandwidth from a provider in the Post Falls area**. Mr. Guryan** explained that around the state how they connect depends on what is available and what is the most cost effective way to obtain bandwidth. In Coeur D'Alene they lease dark fiber from a provider and then provide the equipment to create the bandwidth on that fiber. In other areas they may lease an either net service, from a carrier between two points, and then aggregate all of their traffic across the leased circuit.

Co-Chairman Eskridge asked if they leased from Frontier in Post Falls and Coeur D'Alene. **Mr. Guryan** said he believed they leased from Zayo in northern Idaho.

Co-Chairman Eskridge asked if the advantage to the members was that IRON provided the service through a combination of providers from throughout the state, instead of being captive to one provider. **Mr. Guryan** said that was correct.

Co-Chairman Eskridge commented that Idaho was still dependent upon one provider in some areas. **Mr. Guryan** said that was true in some cases.

Co-chairman McKenzie asked if there were Regional Optical Networks in the states and provinces in the northern tier pipeline that IRON worked with on an equal basis. **Mr. Guryan** advised that much like IRON speaks for the universities in Idaho, in Canada they have CANARIE , there is the Pacific Northwest Gigapop in the northwest, and the UEN in Utah that all have network managers with which they are able to work.

Next to speak to the committee was **Lynda Bennett** from the **Idaho Telehealth Task Force**. She explained that she is employed by the Area Health Education Center (AHEC) which works to strengthen the health care workforce in rural Idaho.

She advised the committee that in March of 2013 **Representative Rusche** pulled together a group of 22 people from throughout the state to talk about telehealth as a way of expanding health care because Idaho does not have enough doctors. This group came together to discuss the status, the barriers, and the next steps in telehealth. She said that specific institutions are doing amazing things in this area. However as they are not talking to each other what they needed was a group that was institution neutral, covered the entire state, and would bring people together to address how to advance telemedicine in Idaho to meet the needs of people in rural, underserved areas. **Ms. Bennett** shared with the committee a list of the people from different parts of the state and different parts of healthcare that are serving on this task force.

She explained that there is opportunity not only for provider to patient treatment through telehealth, there is opportunity for prevention, support, and many diverse sections of health care to strengthen the health care community. **Ms. Bennett** described some of the ways that telehealth is currently being used in Idaho and explained that the benefits of telehealth are access, cost, and quality of healthcare.

Ms. Bennett advised that her employer, AHEC, is involved with this task force because they want to facilitate the communication between stakeholders throughout the state including healthcare providers, hospital administrators, government, education, technology providers and others.

Co-Chairman Eskridge asked what AHEC stood for. **Ms. Bennett** advised it was the Area Health Education Center which is a federal program that is in most states. In Idaho the funding for AHEC goes through the University of Washington School of Medicine which distributes it to the WAMI states.

After the first meeting of the task force Ms**. Bennett** took over the coordination of the group as their goals were very compatible with those of AHEC. The group has decided that their first initiative will be addressing mental health as they determined that 28 of the 44 counties in Idaho do not have a Psychiatrist, and 21 of the counties do not have a Psychologist. This indicates that approximately one quarter of Idaho's population does not have access to these providers in the county in which they live. She pointed out that a person with a serious mental illness is not likely to have the resources and the support to drive several hours for a mental health appointment.

She indicated that Idaho is currently spending $30 million per year from the Health & Welfare budget on mental health hospitalizations, and if the hospitals are full these people may end up in jails. She advised that if people do not have access to appropriate diagnosis and treatment adverse behaviors will happen and those people will end up in jail or in a hospital. This impacts not only the person and their family, but the sheriff who has to transport the people, the communities, and the hospitals where people are going to the emergency room every week because their symptoms are out of control as they have not received treatment. This also impacts the suicide rate in Idaho, which is ten times higher than the national average. **Ms. Bennett** then reviewed a pilot mental health telehealth project that was done in Idaho which showed an average savings of $3,030 per patient per year.

She reviewed with the committee the application that the task force has submitted for a Center for Medicare & Medicaid Services Innovation Grant to extend psychiatric services throughout Idaho's underserved areas. They feel that should they receive this grant of $2.3 million they

could not only save $19 million for the state, but it will also help with the ripple effect caused by lack of access to mental health services.

Ms. Bennett also discussed that whether they receive the grant or not they want to do something that is sustainable by building the relationships to get the clinics up and running and be in a position to share data across all of the counties, while meeting the standards of best practices with secure technologies. She advised that once the technology is in place it can also be used for medical care other than mental health care.

Co-Chairman Eskridge asked if the grant that they had applied for would help provide additional infrastructure to areas that do not have adequate broadband to carry out health related services. **Ms. Bennett** said that the dollars would not be specifically spent on broadband, but would provide a resource person to help the communities find the funding programs that are available to obtain broadband.

Co-Chairman Eskridge followed up with an example in Clarks Fork, Idaho, where they do not have access to broadband internet service, and asked how they would provide service to that type of underserved area. **Ms. Bennett** said that were health care programs that are available to obtain broadband service, but without a person that understands how to obtain it, it will not happen. So they would provide a person that would facilitate obtaining those programs.

Mr. Field asked **Ms. Bennett** to tell the committee about facilities that have the equipment, but because they do not have the personnel to run the equipment they are of no value. **Ms. Bennett** explained that from their surveys they found that there are facilities that have the equipment, and have broadband but are not utilizing it. She agreed that not having broadband was an issue, however it was not the only issue as there are many places where the broadband exists but they don't know how to use it, and that was the barrier that her group wanted to address. She indicated that they could obtain broadband everywhere; however that did not solve the problem if the people do not know how to use it.

Co-Chairman Eskridge advised that part of the issue was that they could not get broadband to the degree that it was needed. **Ms. Bennett** said she would agree and that is where the funding programs could help.

Co-Chairman McKenzie asked about the status of the grant application. **Ms. Bennett** advised that it would be January before they would hear anything; and that at this time they are looking at other ways to fund their project should they not receive the grant.

Priscilla Salant from the **University of Idaho, Office of Community Partnerships**, was next to address the committee. She said that it had been an honor to work with LinkIDAHO and described the various people that were involved in the project. She explained that the

University of Idaho's role with LinkIDAHO was to do monitoring, evaluation and support for efforts around the state. They monitor the data coming from the federal government to see how broadband availability and subscription rates are changing over time. They also are evaluating whether LinkIDAHO achieves its intended outcomes largely around building the capacity of the state. They also support regional efforts primarily in the economic development districts as they conduct their own monitoring and evaluation of broadband issues.

They have found that subscription rates in households and businesses are increasing. They are seeing better, faster access in urban areas where the demand is greatest, and slower or nonexistent access in rural areas.

She then went through the various surveys that the individual regional planning teams are conducting. The results of the business surveys in South East Idaho and North Central Idaho were split into two groups; the smaller, less tech-savvy tend to be satisfied with the service they are receiving in the rural areas in which they are located. The other group of larger, more tech-savvy firms are not happy with the broadband service which they are receiving, and they want to use broadband in much more complex ways.

The results from the household surveys in Idaho County showed that approximately 76% of households have internet service, and in Lemhi County approximately 87% have internet service, which is fairly consistent with rural numbers statewide and nationwide. Surprisingly they found that the vast majority of households that do not have internet service do not want it. Similar to the business surveys, the people that want to use the internet in more complicated ways are less satisfied with the service they have. They also found that approximately 20% of the households who responded in these two counties run small businesses from their homes.

She advised that the University of Idaho will continue to monitor the data from the federal government regarding broadband availability and subscription rates, they will continue to evaluate the outcomes of LinkIDAHO, and they will continue to support the regional efforts.

Senator Lodge asked if they had gathered information regarding the age of the people who did not want internet service. **Ms. Salant** advised that age was one of the questions, and that older people tended to be less interested in the internet.

Senator Tippets inquired if they asked for reasons that households did not want internet service. **Ms. Salant** said that largely they indicated that they did not need it, however she questioned if those people did not realize what could be done with the internet if they had it.

Senator Tippets asked what percentages of the businesses were satisfied versus those that were dissatisfied with their internet service. **Ms. Salant** indicated that the surveys of the

businesses were not necessarily representative of the whole population of businesses in those areas, so she was reluctant to give percentages as they may be deceptive. However she could say that the businesses that were satisfied were smaller businesses.

Senator Tippets asked if there was a pattern regarding satisfaction in urban areas versus rural areas, or if it was more a function of the size of the business and their needs. **Ms. Salant** advised that the surveys did not look at businesses in urban areas as the assumption was that the urban areas are being well served, however one of the upcoming surveys may include some urban areas.

Senator Schmidt indicated that **Mike Field** had advised the committee that people three miles outside of towns did not have access to the internet. He then asked if the people included in the household surveys lived within three miles of towns. **Ms. Salant** indicated that unfortunately they did not ask for specific geographic information within the counties.

Co-Chairman Eskridge read a quote from a member of the Economic Development Committee in his district which said, "For businesses that rely on high speed internet service, telecommuting, or sharing large files, the options are limited and expensive in North Idaho which means that they can't or won't locate in our area" He then asked if in their surveys they tried to address the economic detriment to the state, and the rural areas, due to the lack of adequate broadband services. **Ms. Salant** indicated that the next speaker would address that very question.

Co-Chairman Eskridge asked if the survey was done on the internet or by mail. **Ms. Salant** indicated that the household surveys were done by mail and the business surveys were done face to face.

Senator Schmidt asked if the businesses in the survey were profit or non-profit. **Ms. Salant** advised that in North Central Idaho the businesses were all private manufacturing firms that were members of the North West Intermountain Manufacturing Association. Around the Lava Hot Springs area they surveyed public and private sector organizations.

Mr. Bill Gillis from **VisionTech360** next addressed the committee. His company specializes in looking at the connectivity of rural and underserved areas for key services such as education, healthcare and safety. He advised that they work with the LinkIDAHO team in capacity building, monitoring, evaluation, and planning.

He indicated that broadband is just a tool and what they really cared about was the economic and quality of life benefits of broadband. He discussed the "national standard" set by the Federal Communications Commission of 4 Mbps which is the speed needed to stream videos, handle reasonable size databases or do voice over the internet. Below this standard there are

two categories, the "unserved" which are places where they do not have 768 kilobits per second, and the "underserved" which are places where their service is between 768 kilobits and 4 Mbps. Finally, "well served" is defined as above 6 Mbps. He showed the committee a map of Idaho which was color-coded to indicate what category each area of the state would fall into. To further illustrate he showed a separate map of Bonner County, which is typical for rural Idaho, and showed the population centers as well served, and then in the more outlying areas it tended to be unserved.

Mr. Gillis then reviewed the percentage of Idaho that falls within these categories by land area and population. By population, 7.7% is unserved, with approximately 80% of the population living in well served areas. He indicated that there are wireless providers filling in some of these gaps, however the problem is that it is expensive to deploy internet service to the outlying areas.

He then discussed the demographic-economic divide between Idaho residents that are unserved versus well served and said that one interesting thing that this indicated was that children in Idaho are not staying in the rural areas.

Mr. Gillis said that closing the divide between the unserved and well served areas in Idaho would mean jobs and economic activity to construct the infrastructure; economic development would be extended to a larger portion of the state, and quality of life would be improved in many of Idaho's communities. He explained that they have looked into the investment cost to bring Idaho up to three different standards. To upgrade the network to every household in Idaho to the national standard would cost the providers $173 million to build and $41 million to operate. To bring Idaho up to the more advanced standard would cost $576 million to build, and $164 million to bring wireless to a more advanced standard. In the process of upgrading to these standards and in operating these networks Idaho would see new jobs, increased annual labor income, and increased business taxes. Additionally the dollars invested in broadband construction would create increased revenue for other Idaho businesses, and each job created through broadband construction would result in additional jobs at local businesses.

He indicated although there are public and private costs involved in increasing broadband availability , this availability would also increase the quality of life to include such things as access to health care, ability to telecommute, availability of education and training, the possibility to remain in more rural communities even as the population ages, and improved public safety. The consequences of not addressing Idaho's digital divide would be a widening of the gap in economic and social economic opportunities as well as the loss of potential jobs and economic opportunities which are more critical in the rural areas.

The committee then recessed for a short break.

Ann Joslin, the **Idaho State Librarian** and **Director of the Idaho Commission for Libraries** was next to address the committee. She described a recent survey from the PEW Internet and American Life Project which showed that public libraries are key technology hubs in their communities. It also showed that free access to the internet and computers at public libraries now rivals both books and reference library services as key library services. She advised that Idaho's use of library services were consistent with these national findings as use has increased significantly over the past 5 years.

She then described the various grants and contributions that the Idaho Commission for Libraries had received from the Broadband Technology Opportunities Program, the Bill and Melinda Gates Foundation, IRON, and from Idaho Public Television which were used to fund the Online at Your Library Project. The goals of the project were to add more bandwidth, computers, online resources, training and public information in Idaho's public libraries.

Their project focused on purposeful uses including job search, job skills, and education at all levels for rural residents, non- English speakers, and other vulnerable populations. The new resources include Learning Express Library, Scout, a media literacy course, Idaho Citizen Resources, and a range of resources for mid-life adults and children. Of all these they have received the most response from Learning Express Library which offers online career guides, study guides, practice tests, courses and tutorials for students of all ages. Since the start of the project in 2010 the Learning Express resources used by Idaho residents exceed $5 million in value.

Another focus was on digital literacy which was accomplished by 1 on 1 training, classes, along with a guide to digital literacy resources on their website.

Ms. Joslin then reviewed the various partners that collaborated with the Commission on Libraries on the project, and some of the results of those collaborations. As a result of their efforts use of public access technology in the 55 targeted libraries increased 57% over the two years of the project. In some libraries use doubled, tripled and even quadrupled. To help evaluate the project they completed a survey of library users which showed that 86% had accessed library resources from outside the library and half of those people reported using the library's technology even though they had access to a personal computer with internet elsewhere. She then reviewed the various uses of library technology, and their goals for the future.

Next to address the committee was **Mr. Paul Reyes** from the **Mobile Broadband Validation Project.** He shared with the committee a map which showed what high-speed Internet services are available to every neighborhood in the state. He explained that the overall objective of this

program is to use this map as a tool to plan and enhance the future development of broadband in Idaho for many different types of users.

He advised that the next step in their mapping process is to validate the coverage maps they have developed, and that they are using residents of the state who have a smartphone to help validate their maps. This is accomplished by the use of applications, and the anonymous information is fed into a state master dashboard.

Senator Schmidt indicated that he had just downloaded the application and was able to test his internet speed.

Co-Chairman McKenzie asked about the status of their public outreach campaign, and inquired if this type of test was ongoing in other states to provide information on national or regional coverage. **Mr. Reyes** advised that to date they have 1,000 volunteers that have downloaded the public application, and 25 that have downloaded the advanced test application. He indicated that there are three other states that are involved in the same project.

Senator Schmidt asked if the application was available for devices other than iPhones**. Mr. Reyes** advised that the applications work in all mobile devices, including Apple computers in police vehicles.

Mr. Karl Dye, the Executive Director of Bonner County Economic Development Corporation, was next to speak to the committee via telephone. **Mr. Dye** gave a brief overview of Bonner County and indicated that their unemployment rate was higher than the rest of the state as they had not yet recovered from the loss of natural resource based jobs. He went over the barriers to doing business in the area which included the lack of broadband availability, and the cost to acquire that availability, which precludes building tech-sector type businesses.

For the last five years they have been working to build a fiber to the home network via a public-private partnership. He explained that the funding will come from a taxable bond which would then be loaned to the Panhandle Area Council which would pay for the construction of the fiber to the home network. The local cities would lease the network that had been constructed, and the service provider would guarantee the payment for the city that goes to pay back the lease to the Panhandle Area Council every year. This would create more competition for their community in the broadband area.

Senator Schmidt asked if there were health care providers, other than hospitals, that were looking to incorporate into the project. **Mr. Dye** indicated that there was need for the individual health care providers to have broadband connectivity including the ability to meet electronic medical record standards for Medicare and Medicaid billing, and to provide remote healthcare delivery.

The next presenter, via telephone, was **Mr. Vince Rinaldi** from the **Silver Valley Economic Corporation.** He explained that their corporation works on the creation of wealth through living wage jobs, tax base infusion, and the expansion of private industry. Through **Mr. Field,** LinkIDAHO, and Vision 360 they became engaged in a survey regarding broadband access. What they found was that their broadband capabilities are far below what is needed for the type of businesses they have in their area.

Mr. Bill Gillis indicated that the LinkIDAHO initiative implemented a business and a residential survey in the Silver Valley in which a core question was about the adequacy of broadband access. Nearly two thirds of the responses indicated that their current connectivity was not adequate to meet their needs, and cited speed, cost, and reliability issues. This is critical as 88% of the companies indicated that internet connectivity was crucial to their business, and a significant number of them advised that they were willing to pay more for higher speeds. **Mr. Gillis** stated that the residential survey results were very similar to this, and that the next step is to bring all of the providers together to find solutions.

Mr. Rinaldi added that they plan to organize the providers and the broadband users in their area to develop a business plan that creates a return for the providers. He also indicated that they are looking for a consultant to help guide them through this process.

Mr. Gillis advised the committee that part of **Mr. Field's** function is to work with the USDA, as well as other federal programs, to obtain grant funding for some of the unserved areas. He indicated that the model that is emerging in Shoshone County is an important model, and he applauded the group for their efforts.

Co-Chairman McKenzie indicated that they had deluged the committee with information which he thought was very important for them to have as it was about basic infrastructure needs for businesses. He said that he and **Co-Chairman Eskridge** would consult on the need for another meeting. **Co-Chairman Eskridge** agreed that this was a good approach however they would appreciate input from the individual members as to how the committee should proceed. He added that he felt that getting broadband extended to rural Idaho was something that the committee should be looking at very seriously.

Senator Werk suggested that they may want to ask OPE to take a look around the country to see if there were any best practices for obtaining better broadband access.

The committee adjourned at 12:05 p.m.