2009 IRP Advisory Council Meeting Minutes

Date: Thursday, September 18, 2008
Location: Idaho Power CHQ Auditorium

Introductions/Meeting Overview - Mark Stokes

Mark Stokes welcomed the participants to the second 2009 Integrated Resource Plan Advisory Committee Meeting. Mr. Stokes then reviewed the agenda for the day and introduced the first presentation.

Explanation of the IRP Process – Tom Noll

Mr. Noll led the session with a flowchart of the Idaho Power Company Integrated Resource Planning process. Mr. Noll described three main sections within the resource planning process –

1. Calculating the surplus and deficits,
2. Analyzing the resources (supply-side, demand-side, and transmission), and
3. Developing the resource plan.

Mr. Noll indicated that the surplus and deficit calculations are independent from the resource analysis and the first two processes can be done concurrently. The surplus and deficits, along with the resource analysis, are then jointly considered in step three when developing the resource plan. Idaho Power Company and the IRP Advisory Council are presently working on the surplus and deficit calculations and the resource analysis and will begin developing the resource plan at the next Advisory Council meeting in October.

Idaho Economic Forecast Update – John Church, President, Idaho Economics

John Church presented the results of his economic forecast for Idaho. Mr. Church noted that overall Idaho population growth is forecast to be about two percent per year throughout the planning horizon. Of that two percent, one-half, or one percent, is internal population growth and the other one percent is from immigration into the state.

David Hawk asked if there was an estimate of illegal immigrants built into the forecast numbers. Mr. Church replied that it is an unknown census mark, but some data can be obtained from children in the schools. He stated that there is a domination of illegal immigrants in Idaho Power's service territory, and it's hard to determine the counties with increased immigration growth. Mr. Hawk asked Mr. Church about the estimated percentage of immigrant growth to which he responded one percent. He stated that Idaho's birth growth has matched the nation.

Mr. Church pointed out that California has a population almost equal to 40 million and that a small amount of California emigration may lead to significant immigration in the western states with a small population. Ada and Canyon counties have the largest populations and are expected to experience the greatest population increase. Other counties may have an equal or greater rate of population increase, but Ada and Canyon counties have the largest total numbers of residents and population increase.

The recent housing crisis was addressed, and Mr. Church suggested that housing construction in Idaho may not recover until late 2010 or early 2011, and may not recover until 2016 under some scenarios. Mr. Church indicated that the present period may be similar to what Idaho experienced in the late 1970s through the 1980s and that it is possible that the Idaho population may even decline over the next few years.

Steve Munn inquired whether the population numbers of eastern Oregon counties that fall within Idaho Power's service territory are included in the census numbers. Mr. Church responded that they are not.

David Hawk asked if it is possible, given the current economic disruption of major employers, to see a one percent downturn in coming years. Mr. Church replied that it is possible.

Ric Gale posed the question of whether there is any time in the past that is similar to the time period that we're currently experiencing. Mr. Church stated that it is similar to the 1970s.

David Hawk asked what Idaho has compared to surrounding states that makes people want to locate here. Mr. Church replied lower cost for employers, including lower labor costs, and a lower standard of living. He stated it gives employees a reasonable place to live. Additionally transportation is good and Idaho is considered a safe place to live.

New Large Loads – State of Idaho Perspective - Don Dietrich, Director, Idaho Department of Commerce

Don Dietrich from the Idaho State Department of Commerce gave a presentation ("Attracting Business to Idaho") covering the State of Idaho's business development. Mr. Dietrich stated the top reason why businesses locate in Idaho is the low cost of doing business, and energy prices are a significant component of that cost for some firms.

Mr. Dietrich noted that Idaho has the lowest industrial energy cost of any state and ranks fifth lowest for labor costs. Idaho's business incentives are less attractive than some other states, and Idaho competes with other states solely on the low cost of doing business. The Department of Commerce receives two to six serious business inquiries per month and successfully recruits about six cases per year. The Idaho Department of Commerce has successfully recruited 30 businesses in the last five years including four large-power firms with energy demands ranging from 30 to 100 MW. The Idaho Department of Commerce is discussing relocation with over 20 firms and about half of those 20 firms have power demands greater than 20 MW, with some as high as 90 MW. Mr. Dietrich concluded his presentation by emphasizing that it is the low cost of doing business in Idaho that companies find attractive.

Rick Sterling requested clarification on closed projects. Mr. Dietrich replied that closed projects are projects that are already here.

David Hawk stated that there's a draft bill dealing with the utilities' obligation to serve. He stated that if Idaho Power is at their full generation capacity, does the company pay for a portion of the additional power costs or does the utility pay all of the costs associated with providing additional power. Mr. Dietrich replied that this is an ongoing issue and has not really been addressed at this time.

Steve Munn added that the lack of additional hydro capacity is driving up the overall cost. He stated we need to sustain growth, but it needs to be reasonable.

It was noted that quite a few alternative energy companies are now looking at Idaho, and there was a question as to whether most of them are solar and this assumption was confirmed.

New Large Loads – Idaho Power Perspective - Ric Gale, Vice President of Regulatory Affairs, Idaho Power Company

Ric Gale presented Idaho Power Company's perspective regarding new large load customers. Mr. Gale explained that customers whose electricity demands exceed 25 MW are special contract customers at Idaho Power Company. Customers with electricity demands of 25 MW or less are served under the standard electric tariffs. Presently Idaho Power Company has three special contract customers – the Idaho National Laboratory near Idaho Falls, Micron Technology in Boise, and Simplot Fertilizer near Pocatello.

Mr. Gale stated Idaho Power Company was founded on low-cost hydroelectric energy, however the hydroelectric resources are fully utilized to serve existing load. Under the current rate system, there is an economic tension between new and existing customers due to the fact that the cost of new resources greatly exceeds the cost of existing resources. Preliminary calculations suggest that each new 100 MW of load raises rates for existing customers by at least five percent. Mr. Gale indicated that Idaho Power Company's ability to negotiate special contracts with large customers is an effective tool for dealing with large load customers, but Idaho Power lacks the necessary regulatory tools to properly integrate new tariff customers.

Lastly, there is the question of how a new large customer would signal its intent to locate in the Idaho Power service territory – direct application, signed contract, cash contribution to cover a portion of the resource costs, or something else. A related policy issue is "should a utility plan for additional capacity to be available for potential new load above and beyond projected growth?" In summary, planning for and integrating new customers are key public policy issues, and Idaho Power Company's Integrated Resource Plan is the proper forum to present and discuss public policy issues including the costs of integrating new customers.

David Hawk inquired about the normal wear and tear and regulation prices going up due to hydro and the cost of coal plants. He asked whether we could expect costs to continue to rise. Mr. Gale responded that some of the legacy resources are finite.

Rick Sterling asked whether Idaho Power believes that legislative action is necessary.

Todd Haynes stated that when Hells Canyon Complex was built, there was a surplus of generation capacity, and he questioned who paid for the surplus under the assumption that the power was not being used at the time.

David Hawk stated that the surplus created wasn't long lived, and it was necessary to move to coal plants as the area required more significant resources. This provided some cushion, but the need is about 15%. He stated there never has been a significant amount of surplus and Idaho Power has always operated just under the limit.

Steve Munn complimented Idaho Power for keeping the costs and rates low.

Rick Sterling stated policy questions need to be made easier. He stated that Idaho Power should provide information regarding what it really costs to carry extra megawatts. He stated it may not be as expensive to carry the extra energy as would be expected.

David Hawk made a statement regarding past Integrated Resource Plans. Both Steve Munn and David Hawk suggested higher capacity loads.

Paul Kjellander questioned if when Valmy came online, was extra capacity available for wholesale markets. Mr. Gale responded that a portion of the Valmy project was not allowed into rates until the need was justified.

Rick Sterling asked about customer expectations when talking to Idaho Power. He asked whether customers are willing to pay higher rates and what other utilities tell them. He asked if they charge marginal rates or whether they just don't have the extra capacity to serve them. He also questioned how they estimate the cost for additional capacity. Mr. Gale replied that it could be roughly estimated but it would be difficult.

Mark Stokes asked whether Aurora could model transmission constraints. If transmission is constrained, Idaho Power can't go to the Commission if building is the only option. Without new plants, Idaho Power doesn't have capacity for higher load without having transmission.

Dave Angell stated they would use information from the IRP planning process. He stated if the IRP identifies the need to add additional capacity, Idaho Power will plan for it.

David Hawk stated the utility has never had assurances for cost recovery if they build transmission. He questioned whether FERC would allow cost recovery if transmission is overbuilt. The State should have a role in this, but we need to go to bat for Idaho Power when it's time to build transmission.

Steve Munn stated we need to balance the system, and locating the power sources closer to transmission or load could assist in this balancing.

Rick Sterling asked at what point in time Idaho Power should make a decision regarding accommodating larger new loads. Mr. Gale replied that the IRP is a great place for public policy to start. Mr. Sterling stated that even if we don't add additional load at this time, we still need an estimate of the cost to customers.

David Hawk stated that if the company owned the facilities, there would need to be additional compensation for the cost.

Update on DSM Potential Study - Cory Read

Cory Read proposed providing the group with an updated version of the avoided cost methodology similar to what was produced in 2006. Mr. Read explained the production of new avoided costs is currently ongoing, so it didn't make sense to present the new proposed DSM activities at this point when they had not been screened through updated avoided costs.

Rick Sterling asked if there was a single document that describes how we came up with avoided cost. Mark Stokes responded that there is a section in the 2006 IRP appendices that outlines DSM and cost effective methodologies. The proposal is to update the document and make it accessible for both writing and content.

Mr. Sterling asked if avoiding new generation with DSM also avoids CO^2 production and whether this is being captured in the current avoided costs. Mr. Sterling also stated that transmission is a key emphasis and questioned whether the avoidance of transmission has been captured in the past. He acknowledged that the IRP meetings may not be the correct forum to look at methods that consider avoided costs and that the topic of methodology for avoided costs may need to be evaluated. The key with avoided cost is to look at all the programs that DSM should or shouldn't be doing and evaluate their effectiveness.

Mr. Read responded to a comment on why Idaho Power focused on peak periods when valuing DSM by stating that there is valuation year round, but the peak demand summer period carries more weight in the analysis. Pete Pengilly commented that we will do analysis based on what comes out of the IRP process. Mark Stokes asked IPC employees involved in the process if they accounted for carbon in the 2006 DSM avoided costs that were developed as part of the IRP, and whether that is also being accounted for now. Mr. Sterling commented that other utilities have shown DSM activities to be more cost effective than just two years ago because of increased avoided costs.

Mr. Read then proceeded with an overview of the reasons a DSM potential study was undertaken. He explained that a DSM potential study would allow Idaho Power to explore additional DSM opportunities that exist in our service territory. He further explained that the consultant in the study, Nexant, provided three levels of analysis; technical, economical, and achievable DSM. The achievable DSM is the potential DSM that accounts for market constraints and therefore is the focus of the study. All recommendations in the study are as such until Idaho Power does an internal analysis to ensure that it makes sense for both the company and its customer to adopt a recommended strategy. Mr. Read then explained that other benefits of the study include perspectives from other utilities that the consultant has worked with.

Mr. Read presented a slide which showed a summary of energy efficiency potential. He pointed out that following through and adopting all recommended measures would result in a one year increase of 6.9% in residential, 39% in commercial, and a 13.8% in irrigation energy efficiency savings. He emphasized the peak summer demand reduction resulting from the corresponding potential energy savings of 2.1 MW for residential, 6.4 MW for the commercial sector, and 6.1 MW for industrial.

Rick Sterling asked for an explanation on the first two columns in the slide showing the potential energy reduction. Mr. Read explained that the two columns differentiate between the new DSM potential attributed to expansion of existing programs and new potential that will occur due to new measures and programs.

Tim Tatum inquired about the baseline for the increase in performance by sector, and Mr. Read clarified that the one year increases would be compared with the projected 2008 program performance of our existing programs. Mr. Read cited examples of program recommendations that were made as part of the study. Examples of residential program recommendations included the addition of a freezer/refrigerator recycling program and weatherization/building shell programs. In the commercial sector, program changes included measures for the agricultural industry, expanded motor options, and increased availability of LED options. The consultant proposed increasing program penetration within the food processing industry as well as an overall increase in marketing to the manufacturing sector for Idaho Power's industrial program.

David Hawk asked whether Idaho Power was considering a program on the industrial side where companies are interrupted for a time; similar to the residential program. Mr. Hawk stated Simplot has achieved success in other states with participation in programs similar to this. Steve Munn added that the industrial program has a great savings potential. David Hawk responded by stating that the industrial efficiency program has been improved. Pete Pengilly replied to Mr. Hawk's question regarding interruption programs for industrial customers by mentioning that the industrial sector was the least far along regarding demand response.

Steve Munn asked about the reliability of forecasting peak days in the Idaho Power system and Tom Noll responded by saying that Idaho Power doesn't know the day, but is reasonably confident within a block of two weeks or so during the summer. Steve responded by stating that aligning plant downtime with anticipated peak levels would be helpful.

Mr. Read presented a slide that compared the potential in the draft report of various demand response programs. Two of the programs were either being redesigned (irrigation) or a plan was in place to assess the economics through an RFP (commercial demand response). The direct load control program design for irrigation could potentially shed 150-200 MW of system load and the commercial demand response programs could reduce demand by another 25-50 MW. Ken Miller asked if the RFP was out yet and if this is this first RFP for DSM. Pete Pengilly responded that an RFP was done for the AC Cool Credit program. Rick Sterling asked if the commercial RFP program would start next summer to which Mr. Read responded that it would start as soon as regulatory approval was met and was feasible for the contractor. Implementation would depend on cost-effectiveness assumptions being met. Steve Munn commented that a lot of demand side management could be justified if companies would be willing to shut down turbines.

Mr. Read concluded his presentation by mentioning that preliminary cost effective analysis is being developed for commercial AC cycling that would function similar to the residential programs.

David Hawk complemented Idaho Power for its good commercial program offerings. He stated that there are many positive things coming from Idaho Power and feels like Idaho Power is at the forefront of programs receiving positive customer acceptance.

EPRI In-Stream Generation Study - Pete Vidmar

Pete Vidmar from Idaho Power's Water Management Department gave a presentation on the EPRI In-Stream Generation Study. Mr. Vidmar explained EPRI is a non-profit organization involved in conducting research and development on technology focusing specifically on the global electric power sector. Mr. Vidmar next explained the technology involved. He described the site selection criteria which included the sites' proximity to existing hydropower sites, nearby grid interconnection infrastructure, the assessment of different sites, and high flow velocity. Mr. Vidmar explained the goal of the site assessment was to provide an understanding of the range of issues that may be encountered in Idaho. Of the six sites initially identified, two were selected for further in-depth assessment; the Lower Malad Flume and the Snake River below Brownlee Dam.

Mr. Vidmar reviewed the velocity distributions of each site, described the baseline designs, and presented the performance and costs associated with the two locations. Mr. Vidmar concluded the presentation with the advantages of the technology; renewable resource, minimal environmental impacts, and low capital costs associated with the pilot demonstration. Disadvantages of the technology are that it is a small-scale endeavor delivering high-cost electricity.

Steve Munn asked a question regarding optimal in-stream generation. Mr. Vidmar replied that Lower Malad flows are constant. He stated if the equipment was more compatible to the flows, the capacity factor would be higher. Mr. Munn stated if the in-stream structure could be moved to the penstock, it would be more efficient.

Sid Irwin asked how many units could be installed in the flume without expanding the sides. Mr. Vidmar replied approximately 30 units, but Idaho Power would need to review the flows and water surface elevation.

David Hawk asked if Idaho Power is moving forward with this and questioned whether Idaho Power was seeking any additional funding. Mr. Vidmar responded that the company is not pursuing this at this time. Mr. Hawk then recommended Idaho Power investigate additional funding to develop the pilot program.

Black and Veatch Solar Feasibility Study - Rich Pagoaga

Rich Pagoaga presented the results of the Black & Veatch Solar Generation Feasibility Study for southwest Idaho. Mr. Pagoaga stated that Black & Veatch was selected to perform this independent study in part because of their extensive experience in solar power. The study had a twofold purpose:

1. Identify solar generation technology options for a project located in southwestern Idaho.
2. Develop cost estimates for each solar technology.

In a brief overview of solar generation, Mr. Pagoaga provided definitions of key concepts in solar power and also presented Idaho Power's experience with solar power.

Four solar resource charts of the United States developed by National Renewable Energy Laboratory (NREL) were discussed. These charts showed the annual and July solar resource potential for solar thermal and photovoltaic technologies. The study's findings indicate that southwest Idaho's solar

resource is very similar to the desert Southwest during the summer, and about 50% less during the winter.

Mr. Pagoaga described the solar technologies used in the study, and conceptually explained how each technology worked, the advantages and disadvantages of each technology, and identified the most recent operational utility plant using the technology. David Hawk asked a question regarding the area required for a solar plant. Mr. Pagoaga replied a 100 MW solar plant would cover about 1 square mile. Rick Sterling suggested looking at the economics of installing a solar thermal array at an existing coal plant rather than a stand alone solar plant. The solar array could be used to generate steam that would be put into a coal plant; resulting in renewable energy credits as well as a reduction in CO_2 output and coal usage.

The study's modeled generation output for each technology was presented, and graphs showing the modeled monthly generation during the year for solar thermal and photovoltaic technologies were displayed. A graph showing the hourly MW output of two parabolic trough technologies (with and without thermal storage) overlaid with the average July 2007 daily load curve was also presented to the audience. Additionally, a table showing the levelized cost of all the solar technologies was discussed. Mr. Pagoaga explained that solar power's higher capital costs and lower capacity factors make solar more expensive than other resources. It was also noted that only developers and not utilities can take advantage of the Investment Tax Credit (ITC).

The presentation concluded with a summary of the advantages and disadvantages of solar power generation in southwest Idaho. David Hawk stated that even though solar is considered a free resource and would probably be cited in a desert, there will still be environmental concerns that will need to be addressed. He also added that solar might be worth exploring as a green energy program.

Three additional follow-up items identified to be reported back to the IRPAC include:

1. Report on the energy output from Idaho Power's corporate headquarters rooftop solar array.
2. Request for additional information on SMUD's Solar Shares Program as a possible h
3. Further investigation regarding PG&E's Solar Program as a possible green energy program.

Meeting Wrap-Up and Summary – Mark Stokes/Brian Hedman

Mark Stokes asked meeting attendees if there were any further comments from the public that had not been brought up during the meeting and there were none. Mr. Stokes then thanked everyone for attending and reminded everyone the next meeting would be held on Tuesday, October 14, 2008.