

DECISION MEMORANDUM

**TO: COMMISSIONER KJELLANDER
COMMISSIONER SMITH
COMMISSIONER REDFORD
COMMISSION SECRETARY
COMMISSION STAFF
LEGAL**

FROM: CECELIA GASSNER

DATE: MARCH 9, 2007

**SUBJECT: IDAHO POWER COMPANY'S 2006 INTEGRATED RESOURCE PLAN,
CASE NO. IPC-E-06-24**

On September 24, 2006, Idaho Power Company ("Idaho Power" or "Company") filed its 2006 Integrated Resource Plan (IRP). On October 18, 2006, the Company filed a revised plan that corrected certain typographic errors and revised certain exhibits. The Company's filing is pursuant to a biennial requirement established in Commission Order No. 22299, Case No. U-1500-165. The IRP describes the Company's growing customer base, load growth, supply-side resources, demand-side management and risk analyses. Additionally, the 160-page IRP document and related appendices contain information regarding available resource options, planning period forecasts, potential resource portfolios, a ten-year resource plan, and a near-term action plan.

On November 21, 2006, the Commission issued a Notice of Application and Modified Procedure and solicited comments on the IRP. Order No. 30185. The Staff, along with 20 members of the public and several interested groups, timely filed comments. The Company filed reply comments on February 9, 2007.

THE INTEGRATED RESOURCE PLAN

According to the Plan Summary, the Company anticipates that its customer base will increase from approximately 455,000 to over 680,000 by the end of the planning period of 2025, an increase of 11,000 to 12,000 new customers each year. The Company states that it used a conservative resource plan based upon a worse-than-median level of water. It uses 70th percentile water conditions and 70th percentile average load for energy planning. In addition, for

peak-hour capability planning, it uses 90th percentile water conditions and 95th percentile peak-hour load.

The IRP states that it includes 1,300 MW (nameplate) of supply-side resource additions and demand side management (DSM) programs designed to reduce peak load by 187 MW and average load by 88aMW. The Company's average load is expected to increase by 40 aMW, and summertime peak-hour loads are expected to increase by 80 MW per year through 2025.

The IRP was created with the input of the Integrated Resource Plan Advisory Council (IRPAC), a group comprised of stakeholders including environmental groups, major industrial customers, major irrigation customers, state legislators, public utility commission representatives, and the Governor's office, among others. Although the IRPAC members' input was considered, Idaho Power made the final decision on content of the IRP.

COMMENTS

Comments were filed by 20 individuals, Citizens Protecting Resources, Industrial Customers of Idaho Power, Idaho Irrigation Pumpers Association, Exergy Development Group of Idaho LLC, NW Energy Coalition, and Staff. Idaho Power filed reply comments.

Public Comments

Twenty individuals submitted their comments. A majority of the comments submitted by members of the public concerned the sources of Idaho Power's supply. Ten commenters stated that they are against the inclusion of nuclear power and coal plants in the Company's IRP, and most added their desire that the Company focus on alternative sources such as wind, solar, biomass and geothermal energy sources. One specifically voiced encouragement to the Company to more strongly consider wind-generated energy. Four additional commenters also voiced an opposition to Idaho Power's proposed use of nuclear power and concern for the risks involved with nuclear power plants to human and environmental health, and noted that the undetermined nature of the funding for the INL nuclear plant made it imprudent to include in the IRP. One other commenter expressed his support of Idaho Power's inclusion of nuclear power in the IRP.

Two commenters suggested more public participation in different parts of the process. One of these commenters stated that more demand-side conservation is necessary and asked the Commission to not accept the IRP and make the Company revisit the IRP to include

increased conservation and efficiency efforts. The other commenter suggested that the Commission conduct a survey of statistically significant sample of Idaho residents regarding their opinions on a preferred mix of energy supply, along with education by these residents of the costs of such sources.

With regards to carbon dioxide sequestration efforts, one commenter opposed them while another was in favor of requiring sequestration to offset any coal-fired generation added to the Company's resource plan.

Citizens Protecting Resources

Citizens Protecting Resources (CPR), a group organized in response to the proposed siting of a large merchant coal-fired power plant near Jerome in 2006, expressed its opinion that the IRP did not include a strong DSM plan. It urged the Commission "to mandate, or at least strongly encourage, efficiency and DSM." CPR also noted its opinion that the IRP contained a low emphasis on non-hydro renewable energy source. It supported the purchase by the Company of green tags and believes that such costs should be recoverable.

Lastly, CPR expressed its disappointment that the Company chose Portfolio F2 rather than F1. It believes that an IRP that relies on more DSM and non-hydro renewable resources rather than thermal resources is a superior one than the filed IRP.

Staff Comments

The Staff noted that the 2006 IRP is a continuing improvement over prior IRPs. It believes that the Company's conservative approach to water, load and peak capacity planning is reasonable. It noted that some risk remains for strong reliance on regional markets to meet summer peaking needs, but that the risk is mitigated by the conservative planning criteria. Staff Comments at 3.

Staff also supported the Company's extension of its planning horizon from 10 to 20 years. This approach allows the Company to incorporate more capital intensive resources that require a long lead time and facilitates the analysis of transmission planning, among other pertinent activities. *Id.*

1. Load Growth Forecasts. Staff commented that Idaho Power continues to plan for a high level of growth in load over the planning horizon. The expected growth rate of 1.9% is lower than the 2002 and 2004 IRPs, but still signifies a robust upward trend. Of the four main customer classes, the residential sector appears to be the catalyst for growing load. The growth

rate for residential customers is predicted to be about 2% annually, resulting in a net increase of nearly 190,000 customers by 2025 for that class. This contributes to both energy and capacity needs, with emphasis on the latter due to the growing penetration of air conditioning within the service territory. Summer peak load growth is projected at 80 MW a year over the planning horizon, with residential and irrigation accounting for approximately 60% of summer peak demand. *Id.* at 4.

2. Fuel Price Forecasts. Staff commented that perhaps the most important assumption and input in the modeling run is the natural gas price forecast. In the last five years, Staff noted, many electric utilities have relied on gas-fired combustion turbines, with an increased total gas consumption for electric generation of 45% over the past decade. *Id.* at 4-5. At the same time, the nation has experienced substantial volatility in gas prices. Staff commented that the IRP appears to present and utilize an annual average gas price. Staff believes that because the majority of gas is purchased to fire turbines in the summer peaking months, it would seem more appropriate to use a summer pricing schedule that reflects the timing of the Company's fuel purchases. To the extent the summer gas prices for use in summer peak facilities are lower than annual average prices (that include the higher winter prices), then the risk of an artificially low annual average forecast is somewhat mitigated. Staff commented that to the extent the Company used weighted summer prices in its IRP, it should describe the methodology used in the calculation. *Id.* at 5.

Likewise, Staff noted that the Company's forecast of coal prices continues to exhibit the same upward trend in forecasts from the previous IRPs. IRP, Technical App. D at 50. Coal prices, including transportation costs, become a major factor in assessing potential portfolios, as the Company appears committed to adding coal-fired resources to the mix. *Id.* at 6.

Idaho Power Reply Comments: The Company noted that the Aurora model utilized in the analysis of each portfolio does include seasonalization factors, which may not be apparent from reading the figures and data. Idaho Power Reply Comments at 5.

3. Transmission. Staff noted that at the behest of the Commission, Idaho Power included transmission alternatives in its resource planning. Staff Comments at 6. It stated that it believes that given the Company's needs, availability of economic resources and the maturity of the Pacific Northwest markets, the Company's emphasis on transmission upgrade is properly focused. Staff commented that the selections presented regarding transmission appear to be

reasonable, including 285 MW of transmission upgrades that provide access to the Mid-C market in the Pacific Northwest. *Id.* Sites for transmission east of Boise have not been specifically identified, but the Company included generic transmission upgrade costs. The Staff considered this to be reasonable as a proxy, noting that the Company would likely provide more specific cost estimates when a more fully developed plan to acquire resources east of Boise is presented. *Id.* at 7.

4. Supply Side Resource Options. Staff noted that the selected portfolio is a modified version of the preferred portfolio from the 2004 IRP. *Id.* According to Staff, the three most significant changes are the timing of the additional coal based resources, the inclusion of transmission upgrades, and the modification of geothermal resources. *Id.* Also, the inclusion of 250 MW of nuclear power in 2023 is worth noting. The selected portfolio consists of the following:

- 250 MW Wind
- 150 MW Geothermal
- 150 MW Combined Heat & Power (CHP)
- 250 MW Coal
- 250 MW IGCC Coal
- 285 MW Transmission
- 250 MW Nuclear
- 187 MW DSM (Peak reduction)

Staff noted that Idaho Power has committed to adding more wind generation to its portfolio. A major factor toward the reduction in new wind acquisitions is the amount of PURPA wind projects the Company has added since the preparation of the 2004 IRP, when it had only 2.61 MW of wind-related contracts. Excluding any unforeseen additional PURPA contracts, the amount of wind energy in its resource mix will move to 450 MW within six years. *Id.* Staff also noted that the 2006 preferred portfolio increases the amount of geothermal-powered generation by 50 MW over the 2004 plan to a total of 150 MW. *Id.*

In addition, Staff noted that the single 500 MW coal-fired generation resource from the 2004 preferred portfolio has been altered in the 2006 IRP to two 250 MW acquisitions dispersed over the planning horizon. *Id.* at 8. Staff commented that Avista and Idaho Power are jointly assessing the current state of coal-based generation technologies. *Id.* Preliminary results indicate that integrated gasification combined cycle (IGCC) technology may be viable, but the high initial capital expenditures and unproven technology involved may be barriers. *Id.*

Staff added that the other 250 MW of coal-fired generation is anticipated to be online in 2013. The Company has provided a number of potential scenarios for adding regional pulverized coal to its resource portfolio with the expectation that any generating unit will be located outside of the State. By breaking up its acquisition of coal based resources into smaller units than that proposed in the 2004 IRP, the Company notes that this reduces its exposure to risk of equipment failure and coincides better with expected load growth. IRP at 97. Staff observed that this reduces the immediate rate impact on the Company's customers as well. *Id.*

Lastly, Staff noted that the remaining supply-side resources in Idaho Power's preferred portfolio include 150 MW of Combined Heat and Power (CHP) and a 250 MW power purchase agreement (PPA) with INL for nuclear power. *Id.* The inclusion of the nuclear PPA is speculative at this time, but is not considered in the plan to be enacted until 2023, and it is assumed that this will be addressed in future IRPs. *Id.* at 9.

5. DSM Measures. Staff commented that the 2006 IRP sets more aggressive targets for DSM savings for the planning period than did the 2004 IRP. Staff supports prudently managed, cost-effective DSM programs and hopes that the Company can reach at least the targets set out in the IRP. *Id.*

Staff noted that the 2006 IRP proposes two new DSM programs and refinement and expansion of an existing program that will potentially result in a nearly 88 aMW savings and a reduction in peak load of 187 MW in 2025, both in addition to its existing programs. *Id.* Most of the existing programs are projected to expand for at least the first few years of the planning period, according to the 2004 IRP. *Id.*

The Commission approved modifications to the Irrigation Peak Rewards Program that are intended to expand the program beyond the level of the 2006 program. See Order No. 30194. Staff noted, however, that there is no acknowledgement of the program or assumptions of continued associated savings and reductions to be found in the 2006 IRP. If included, Staff believes the Company needs to be more explicit in how it is factored into the analysis; if not included, the Company should explain why. *Id.* at 9-10.

Staff recognized that there are several factors that may influence the level of DSM implementation. *Id.* One particular example, Staff noted, is the implementation of a fixed cost adjustment mechanism designed to keep the Company financially neutral to deviations in sales, such as lost sales due to DSM efforts. See Case No. IPC-E-04-15. The goals of the fixed cost

adjustment are to remove the inherent disincentive to investing in demand-side measures and facilitate the Company's efforts to expand its DSM offerings. Staff is interested in whether approval of the fixed cost adjustment mechanism would affect the analysis conducted for the IRP, and if so, how. *Id.*

Staff noted that a second example is the status of the Company's advanced meter reading (AMR) deployment. *Id.* In Order No. 30102, the Commission granted Idaho Power a one-year period to investigate the technical issues that plagued the AMR deployment in the Emmett area. Through meetings with the Staff, the Company has reported that many of the technical issues have been addressed, though new issues have appeared. Failure to resolve these issues may have a deleterious effect on demand response programs that utilize AMR technology. Staff further noted that the Company is scheduled to submit an updated status report by May 1, 2007. *Id.*

Staff commented that DSM programs continue to be among the most cost-effective resources available to Idaho Power. *Id.* However, the Company projects its DSM energy savings for 2007 and 2008 at between 65% and 75% of its proportional share of the Northwest Power and Conservation Council's (NWPPCC) estimate of total conservation potential. *Id.* While the 2006 IRP demonstrates a higher commitment to DSM efforts than in the past, Staff believes that the Company does not yet propose to pursue all cost-effective DSM opportunities and incorporate associated energy and peak demand savings into its determination of new supply-side resource needs. Staff conjectured that perhaps the Company's fixed cost adjustment proposal in Case No. IPC-E-04-15 and its DSM incentive proposal in Case No. IPC-E-06-32, will mitigate the Company's position that DSM programs will be selected to minimize negative impact on shareowners. *Id.* at 11.

Idaho Power Reply Comments: Idaho Power noted that the changes to the Irrigation Peak Rewards Program that were approved by the Commission on November 30, 2006 (Order No. 30194) will significantly change the estimated savings from the program. Idaho Power Reply Comments at 5. It does expect an increased savings, by approximately 3.9 MW per day, in 2007, but depending on how the peak time is distributed and how the time period is used, the estimated savings will still be close to 30 MW. *Id.* at 5-6.

6. Risk Analysis. Staff noted that Idaho Power selected 4 of the 12 potential portfolios for further risk analysis in determining the preferred portfolio, with risk measures

falling into either quantitative or qualitative categories. Staff Comments at 11. The quantitative analysis closely follows that of the 2004 IRP with two exceptions, the exclusion of risk analysis associated with the expiration of production tax credits for wind and the inclusion of a sensitivity analysis to variations in the streamflows of the Snake and Columbia River systems. Advancement in the modeling software facilitated simulating various streamflow sequences for the hydrologic variability analysis, which each portfolio analyzed under varying assumptions of load requirements, carbon taxes, etc. The resulting analysis was not used in the final risk adjustment due to the magnitude of the impact of varying hydrologic conditions. Staff found this to be reasonable and noted that the difference in variability between the highest and lowest cost portfolios are relatively small (\$404 million versus \$434 million, or less than 7% difference in variability). *Id.*

Staff noted that the Company expanded its qualitative risk section in the 2006 IRP and that its methodology resulted in the selection of the preferred portfolio, an extension of the 2004 preferred portfolio that highlights a diverse mix of new resource acquisitions. Staff noted that the preferred portfolio had the second highest cost of the finalists in terms of average total cost, yet the lowest in terms of resource cost (capital and operating costs, with market sales and purchases excluded). The preferred portfolio was the second lowest risk-adjusted total cost portfolio among finalists due to its relatively higher risk ranking. *Id.* at 12.

7. Near-term Action Plan. Staff noted that since 2001 Idaho Power has been in a period of acquiring supply-side resources after nearly two decades of relatively few additions to its generation resource mix. *Id.* The 2004 and 2006 IRPs have presented a need to meet future deficiencies in energy as well as peak loads. Given the long lead-time associated with thermal baseload generation facilities and the projected persistent deficiencies in energy beginning in 2012, Staff believes it is imperative that the Company addresses these concerns. *Id.*

Staff noted that the Borah-West transmission upgrade is scheduled for completion prior to the Company's next IRP filing in 2008. By that time it is anticipated that the final commitments for the McNary-Boise transmission upgrade will have been made. This addition is expected to be complete around 2012. Besides the Borah-West project, the Company is in the final stages of the wind RFP for 100 MW scheduled to be online by the end of 2007, as well as finalizing the geothermal RFP for 50 MW, scheduled for an online date in 2009. Finally, the approved 170 MW expansion of the Danskin facility is anticipated to be online in 2008. These

additions, along with changing conditions faced by Idaho Power regarding loads, fuel prices, and market conditions will invariably affect the Company's 2008 IRP. *Id.* at 13.

Staff Recommendation

The Staff recommended that the Commission accept and acknowledge the Company's 2006 IRP for filing.

Industrial Customers of Idaho Power Comments

The Industrial Customers of Idaho Power (ICIP) expressed concern about the Company's inclusion of the Evander Andrews natural gas-fired combustion turbine in the IRP. ICIP Comments at 2. It noted that the Company relied on the 2004 IRP in explaining the need for the Evander Andrews plant, approval for which it filed close to the same time as the 2006 IRP, but that the 2006 IRP contained "drastically different assumptions regarding, among other things, natural gas prices and [DSM] program levels." *Id.* The ICIP voiced a concern that the 2006 IRP only assumed that the Evander Andrews plant would be built without further analysis as to whether it was still needed. *Id.* The ICIP urged the Commission "to require the Company, in future IRPs, to evaluate any resources under consideration in order to determine if they continue to be preferred options." *Id.* at 3.

ICIP also stated that the Company had committed, in the application for the Evander Andrews turbine noted above, to investigate the potential of using emergency backup generators throughout its service area as a way to meet peak demand and that the Company had not yet done so. *Id.* As the Company is currently in the middle of such an investigation and believes it will have its proposal for the use of such generators by June 1, 2007, ICIP believes that the Commission should direct the Company to include its findings in its 2006 IRP. *Id.*

In addition, ICIP commented that it does not believe the Company used its best load forecast. *Id.* at 4. It noted that the IRP states that the Company did not incorporate any specific assumptions regarding the Conservation Reserve Enhancement Program (CREP), in which substantial farmland is set aside and the irrigation pumps thereon are turned off. *Id.* at 4-5.

ICIP also noted its concern that the IRP focuses on transmission upgrades in the northwest and does not fully concern possible transmission access to markets east of its service territory. *Id.* at 5. It states that environmental concerns in the northwest may constrain transmission and that it expects that coal resources in the Power River Basin will be a likely low-cost generation resource for the region. *Id.* at 6.

Lastly, ICIP urged the Commission to direct the Company to clarify how it accounts for rate design tools in forecasting the system load, or to direct it to supplement the 2006 IRP with the data. *Id.* at 7. The ICIP urged the Commission to not accept the 2006 IRP for filing and to direct the Company to reconsider and supplement the IRP in accordance with the ICIP comments. *Id.* at 1.

Idaho Power Reply Comments: Idaho Power stated in reply that, taking into account the substantial modeling and analysis that must be done to create an IRP, certain parameters and assumptions must be locked down at a certain point. Idaho Power Reply Comments at 2. It refuted ICIP's assertion that Idaho Power does not revisit the ongoing prudence of its decisions, and stressed that it is mindful of various factors that affect its system and IRP. *Id.* It continues to believe that the Evander Andrews facility was an appropriate choice. *Id.*

The Company noted that it makes every attempt to have the most current load forecast possible. *Id.* at 2-3. The forecast used for this IRP was completed on October 26, 2005, and using a later forecast to incorporate the May 2006 Idaho CREP would have meant redoing months of modeling and analysis. *Id.* at 3. The Company further stated that it is continuing its investigation into a "virtual peaking plant" and will have its proposal to the Commission by June 1, 2007. *Id.*

Idaho Irrigation Pumpers Association Comments

The Idaho Irrigation Pumpers Association (IIPA) commended the Company for producing a realistic IRP and for its proposing a diverse resource base. IIPA Comments at 1. IIPA noted its support of the Company's conclusion that it must build load capacity to meet the state's growth. *Id.* at 2. It added that although the Company's general load is increasing, irrigation load is not increasing. *Id.* It urged the Company to continue its DSM efforts for irrigators along with other customer classes. *Id.* Lastly, it voiced its support of the Company's proposal to reduce its reliance on regional market purchases. *Id.* at 3.

Exergy Development Group Comments

Exergy Development Group of Idaho LLC ("Exergy") urged the Commission to not accept the 2006 IRP for filing. Exergy Comments at 1. Exergy believes that the IRP focuses too strongly on transmission upgrades to the Pacific Northwest, disregarding opportunities that would benefit the Company and its customers. *Id.* at 2. It notes that as the Pacific Northwest relies on hydropower, when the Pacific Northwest generation is abundant, it is also usually

abundant on Idaho Power's system. *Id.* It also noted that fish and wildlife protections may constrain the hydropower-based systems and reducing the Pacific Northwest surplus of energy. *Id.* Exergy challenged the IRP's assertion that all off-market purchases will be from the Pacific Northwest as being too simplistic and ignoring resource development to the east and south. *Id.* at 3-4. It commented that coal plants from Montana, Wyoming and Utah may be future resources, as well as renewable energy projects in the Company's service territory. *Id.* at 4.

Idaho Power Reply Comments: Idaho Power stated that ICIP's and Exergy's conclusions that it focused on transmission to the Pacific Northwest to the exclusion of the south and east are incorrect. *Id.* at 3-4. It noted that the preferred portfolio does include transmission upgrades to the east, including certain facilities that have been proposed but not finalized. If these facilities are not developed, the Company stated that it is unlikely it would proceed with the associated transmission upgrades. *Id.* at 4.

NW Energy Coalition Comments

The NW Energy Coalition ("Coalition") lauded the Company's increased DSM programs. Coalition Comments at 1. It also voiced a concern about the amount of thermal resources proposed. *Id.* at 2. It noted that it is not convinced that the proposed additional 500 MW of coal-generated energy is necessary or prudent, especially in light of "the modest amount of wind acquisition proposed. ..." *Id.* It noted that the Northwest Power and Conservation Council's Fifth Power Plan projected that the entire region may need only a single coal plant in the future. *Id.* With the Oregon Public Utility Commission expressing doubt about the need for a new plant, and Washington and California passing laws disfavoring coal for renewable resources, the Coalition believes that the Company's proposed increase in coal-generated energy is misplaced. *Id.* at 3.

In addition, the Coalition believes that the anticipated risk with wind variability is overstated and that a more comprehensive evaluation of wind-generated energy would reduce this risk. *Id.* at 4. It further expressed its disappointment in the amount of non-wind renewable energy sources included in the plan. *Id.* at 4-5. It believes that this can be improved to create a more even ratio of non-renewable to renewable resources. *Id.* at 5.

The Coalition expressed its support of the increase in peak DSM and believes there is still room for more improvement. *Id.* at 5-6. It encouraged the Commission to continue to urge the Company to incorporate the additional DSM programs set forth in the 2006 IRP. *Id.* at 6. It

suggested that Company could be directed to require or incentivize its new customers to participate in the DSM programs. *Id.*

The Coalition stated its concern that the IRP does not include improvements to southern Idaho transmission. *Id.* It noted that with additional wind energy coming online and possible plans to expand the Bridger plant may require additional transmission capability (even when the upgrades to the Borah-West transmission system is taken into account). *Id.* It disagreed with the Company's assertion that increasing transmission capability in southern Idaho may place an undue reliance on the Wyoming energy market. *Id.* at 7.

COMMISSION DECISION

Does the Commission desire to accept and acknowledge the Company's 2006 IRP for filing?



Cecelia A. Gassner

M:IPC-E-06-24_cg2