

DECISION MEMORANDUM

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

FROM: CECELIA A. GASSNER

DATE: SEPTEMBER 19, 2006

**SUBJECT: IN THE MATTER OF INTERMOUNTAIN GAS COMPANY'S 2006
INTEGRATED RESOURCE PLAN, CASE NO. INT-G-06-3**

On May 1, 2006, Intermountain Gas Company ("Intermountain" or "Company") filed its 2006 Integrated Resource Plan (IRP) for the years 2007-2011 with the Commission. This filing is pursuant to the directives in Order No. 25342, Case No. GNR-G-93-2 (PURPA § 303(b)(3), Energy Policy Act of 1992). Order No. 25342 set forth the original requirements for IRPs for local gas distribution companies in accordance with amended Section 303 of PURPA. The Commission has twice modified the requirements for natural gas IRPs: Order No. 27024 allowed natural gas utilities to shorten the planning horizon to five years to match the company's planning horizon and available market products; and Order No. 27098 removed the requirement that IRPs include a formal evaluation of the costs and benefits of potential demand side management (DSM) programs, stating that a general explanation of whether there are cost-effective DSM opportunities will be sufficient.

The Commission solicited comments from interested parties. Order No. 30090. The only comments received were submitted by Commission Staff. The Company filed Reply Comments on September 14, 2006.

THE INTEGRATED RESOURCE PLAN

In the Executive Summary of the Company's IRP, the Company states that the IRP is meant to describe the currently anticipated conditions from 2007-2011. It further states that the document is meant to present strong guidelines rather than be "a prescription for all future energy resources." IRP at 1. The Company is the sole distributor of natural gas in southern Idaho, serving 275,800 customers in 74 communities during the first half of fiscal year 2006. Its

system contains over 10,000 miles of transmission, distribution and service lines. *Id.* In fiscal year 2005, over 446 miles of distribution and service lines were added in response to new customer additions and to maintain service for the growing customer base. *Id.*

Intermountain's two major markets are the residential/commercial market (the "core market") and the industrial market. *Id.* Intermountain saw an increase of 5% in average residential and commercial customers during the first half of fiscal year 2006. *Id.* Forty-four percent (44%) of the throughput on Intermountain's system during fiscal year 2005 was attributable to industrial sales and transportation. *Id.*

Forecast Peak Day Send-Out

According to the IRP, peak day send-out studies and load duration curves were developed under design weather conditions to determine the magnitude and timing of future deficiencies in firm peak day delivery capability. Residential, commercial and industrial peak day load growth on the Company's system is forecast to grow at an annual average rate of 4% over the next five years. The Company calculated the growth for the system as a whole as well as for the separate regions in which the Company operates. When forecasted peak day send-out is matched against existing resources, a peak day delivery deficit occurs during January 2007 and increases at a rate of 38%. According to the Company's calculations, a deficit of firm capacity begins to occur near the peak day beginning in the winter of 2009. IRP at 4.

Idaho Falls Lateral Region

The Idaho Falls Lateral (IFL) region serves many cities between Pocatello to the south and St. Anthony to the north. The residential, commercial and industrial load served off the IFL represents approximately 15% of the total Company customers and 18% of the Company's total winter send-out during December of 2005. *Id.* When forecasted peak day send-out on the IFL is matched against the existing peak day distribution capacity, a peak day delivery deficit occurs during 2007 and increases thereafter. *Id.* Intermountain believes that small, short duration peak day distribution delivery deficits in the future can be mitigated by working with customers who have the potential to cut their peak day consumption by switching to fuel oil during extreme cold temperatures. IRP at 5. However, the Company states that the projected delivery deficits are of such magnitude that "looping" of the existing system is warranted to add necessary firm delivery capability to the area.

Sun Valley Lateral Region

The Company's residential, commercial and industrial customers in the Sun Valley Lateral (SVL) region account for 4% of the total customer base and 4% of the Company's total winter send-out during December of 2005. *Id.* When forecasted peak day send-out on the SVL is matched against the existing peak day distribution capacity, a peak day delivery deficit occurs during 2009 and increases thereafter. The tourism industry-related industrial load on the SVL is limited in size and does not currently have the capability to switch to alternative fuels in order to mitigate peak day send-out. IRP at 6. The Company believes that the growth in the SVL will warrant future upgrades to the existing pipeline system, and the Company plans to increase the delivery capability and capacity on the SVL through a series of cost-effective system upgrades. *Id.*

Canyon County Region

Fourteen percent (14%) of the Company's residential, commercial and industrial load is served off the Canyon County Lateral (CCL) region, and it accounted for 13% of the Company's total winter send-out during December of 2005. *Id.* When forecasted peak day send-out on the CCL is matched against the existing peak day distribution capacity, a peak day delivery deficit occurs during 2007 and increases thereafter. *Id.* The industrial customer base in the CCL region does not currently have the capability to switch to alternative fuels as a means of mitigating peak day send-out and the Company states that it is currently exploring optional means of enhancing the distribution capability in this region. IRP at 7.

STAFF COMMENTS

Staff timely filed its comments on August 29, 2006. In accordance with the Public Utility Regulatory Policies Act of 1978 (PURPA) (as amended by the 1992 Energy Policy Act), Commission Orders No. 25342, 27024 and 27098 require that the Company submit an Integrated Resource Plan (IRP) to the Commission every two years, addressing the following elements:

- Demand Forecasting
- Assessment of Efficiency Improvements (DSM Actions) & Avoided Costs
- Natural Gas Supply Options
- Natural Gas Purchasing Options and Cost effectiveness
- Integration of Demand and Resources
- Two-Year Action Plan
- Relationship Between Consecutive Plans (2004 Plan to 2006 Plan)
- Public Participation

- Legal Effect

The Staff addressed each of these in turn.

Demand Forecasting

In June 1997 the Commission granted the Company's request to change the planning horizon for the Company's IRP process from 20 years to 5 years. *See* Order No. 27024. The planning period of 2007-2011 used for this IRP meets that requirement. The Company forecast, which is the basis for the five-year planning period, provides daily, monthly and peak demands and predicts significant growth of peak demand in the core sectors of residential and commercial customers and stable peak demand in the industrial sector over the planning period. The forecast is based on: (1) growth in the number of households in the service territory commensurate with growth of the population and the economy, (2) corresponding growth in the number of small commercial customers, and (3) conversion to natural gas use by residences that presently do not use natural gas.

The Staff stated that it believes the economic forecast issued by John S. Church in May 2005 and the conservative Design Heating Degree Year were appropriate to use in the IRP; however, it is Staff's opinion that, in general, the forecasting inputs and methodologies used by the Company are neither as comprehensive nor as robust as they could be. Staff Comments at 4. Although Staff concurs that some of the aspects of the modeling may be adequate, there are other factors that should undergo a wider range of analysis than the Company performed here. Staff believes that the IRP should be considered a comprehensive planning document performed for the benefit of the utility's customers. *Id.* The Staff further commented that the Company should not shy away from addressing multiple scenarios and sensitivity analyses for such items as natural gas pricing or factors affecting demand when performing the analysis necessary for the IRP. *Id.*

The Staff noted the following areas where it felt the IRP was deficient in some manner:

(1) Market Penetration Data. The Staff believes that the market penetration numbers presented in the IRP are more realistic than those presented in the 2004 IRP. However, the increasing market penetration going forward seems contradictory to market conditions and invites more explanation. *Id.* at 5.

(2) Conversion Rate Data. The conversion rates for existing homes noted in this IRP are less optimistic than in the previous IRP, however, those conversion rates are presented as generally increasing over the planning period. This seems counter-intuitive since conversion reduces the size of the non-natural gas users market. Staff voiced a suggestion that the Company should provide a fuller explanation of its data and conclusions regarding conversion rates to clarify this inconsistency. *Id.*

(3) Forecasting Method. Staff believes that the Company employed an overly simplistic forecasting method that ignores other factors driving demand, such as prices of natural gas and electricity, seasonality, and timed heating systems among other factors. Use of one or more of these other factors could be included to improve the model with little computational cost. *Id.* at 6.

(4) Range of Pricing Forecasts. Staff comments that the Company used a single source for the natural gas pricing used in the IRP (the NYMEX market close data), and that no effective date or dates for the price data was stated in the IRP. *Id.* The Company also stated in its response to a production request that an additional pricing data point from November 6, 2005 was used in the model to check for the impacts of differing pricing and that the results did not materially effect the model's optimization. Staff asserts that "these scenarios or sensitivity analyses are exactly the product that Staff believes should be published in the IRP in order to show that the IRP has resulted in selection of the best plan going forward." *Id.* Otherwise, Staff "has no basis for believing that the Company has used anything other than intuition and reliance on a unique forecast to prepare the plan." *Id.* at 6-7. Staff comments that it believes the number of scenarios that are necessary or the computer sensitivity runs necessary to develop those scenarios is not an undue burden and notes that many other utilities perform literally hundreds of runs for many scenarios to arrive at their planning results. *Id.* at 7. Staff observed that "at least a half-dozen other natural gas price forecasts exist that could be used for comparison, to ensure that not too much weight is placed in merely a single forecasted price set." *Id.*

(5) Price Elasticity of Demand. In Staff's evaluation, the demand forecast appears to lack a consideration of the price elasticity of demand. *Id.* Staff notes that although this factor has not been thought to be significant within the retail price levels of natural gas, the recent large price increases could result in an expected change in demand would be 2.50-3.75%. *Id.* Staff considers this to be a significant change. *Id.* Staff notes that in its response to a production

request on this topic, the Company states that it has considered addressing price elasticity of demand but believes it is not appropriate, primarily due to its belief that price elasticity of demand will not effect the design weather assumptions for the coldest day to be served. *Id.* Staff understands that the Company may “logically come to that conclusion in its analysis, but would prefer to see the analysis conducted and presented rather than have a simple assumption drive the IRP.” *Id.* In addition, Staff made note of the Company’s statement in its response to the production request that it does not wish to include price elasticity of demand because it would add additional possible scenarios to be included in the IRP. *Id.* Staff believes that that is “precisely what is needed here – an examination of all likely scenarios in order to derive the plan that will best meet customer demands.” *Id.* at 7-8. Staff recommends that the Commission require price elasticity of demand to be addressed in future IRPs to capture the effect the change in the price of the commodity may have on consumer demand.

Assessment of Efficiency Improvements (DSM Resource Options)

In response to an April 27, 1997 filing by the Company (Case No. INT-G-97-2), the Commission issued Order No. 27098 allowing the Company, in its biennial IRP, to address efficiency measures with a “general explanation with each IRP filing of whether there are cost effective [demand-side management (DSM)] opportunities.” Order No. 27098 at 2. Prior to that time the Commission required that the IRP address “...a full spectrum of opportunities available to the Company, including conservation and efficiency measures... .” Order No. 25342.

In addressing efficiency, the IRP provides an overview of growth of the North American natural gas markets and makes its case for natural gas being the most efficient energy source available. IRP at 58-63. Staff recognizes that Intermountain goes further by addressing, among other things, its support and promotion of certain conservation-based programs. *Id.* at 8. Staff comments that “except for a very general statement of support for these and similar activities, there is no mention in the IRP of any efficiency or DSM programs or evaluations of those programs being performed or reviewed by the Company.” *Id.* Staff also believes that any analysis to identify whether there are other cost-effective DSM opportunities available is absent from the IRP. *Id.*

Staff comments that although it believes that education and information are an important part of DSM, however, providing information and education are not DSM measures in that they do not directly create alternative resources that can be quantified and substituted for

supply side resources. *Id.* at 9. Given the recent history of extreme upward price pressure and volatility in the natural gas markets, the impact of those prices on consumers, and the fact that there are few, if any, expectations of substantial decreases in natural gas prices, Staff considers the IRP's analysis of cost-effective DSM measures to be inadequate, and believes that the Company has failed in this IRP to satisfy the requirements of Commission Order No. 27098. *Id.*

Natural Gas Supply Options

The Company addresses commodity supply in two sections of the IRP, "Traditional Supply and Deliverability Resources" and "Non-Traditional Supply Resources." IRP at 45-53 and 54-55, respectively. Intermountain currently accesses natural gas from two supply basins, and extensively uses natural gas storage to assure the ability to meet winter demands. The Company utilizes both underground and liquefied storage and Intermountain owns underground storage in three different and geographically diverse locations. In Staff's opinion, the Company has adequately addressed supply-side options in the IRP. *Id.* at 10.

Natural Gas Purchasing Options and Cost Effectiveness

The Company's documentation of its market evaluations and market fundamentals continues to improve. The market expertise and experience of the Company and its purchasing agent are extensive and will provide the background to evaluate the current guidelines and expand the Gas Supply Risk Management Program as Intermountain and Staff continue to meet on this topic. *Id.* at 10-11.

Integration of Demand and Resources

The IRP section entitled "Load Duration Curves" identifies certain delivery constraints. IRP at 42. These constraints fall into two categories: (1) deficits in delivery to the Company's system from the interstate pipeline, and (2) deficits in the Company's distribution system capacity for delivery to its customers. *Id.* at 11.

These deficits are addressed in the IRP section entitled "Resource Optimization." IRP at 64. For the system as whole the Company forecasts, in the year 1 base case, a peak day deficit in delivery into the system of 23,316 mmbtu/day in 2007 growing to 85,070 in 2011. Staff notes that the IRP states that this deficit will be met by acquiring an incremental 25,000 mmbtu of interstate delivery on Northwest Pipeline in Year 1 of the plan (2007) along with unspecified contracts for matching commodity. *Id.* at 12. Staff also notes that Intermountain addresses the need for 36,900 mmbtu in year 5, but is less specific about how that deficit will be

satisfied. *Id.* The intervening years are not addressed. The Company's modeling results designate "fill" (generic acquisition) for the needed commodity for this deficit. Although the data is available in tables found in the exhibits, in the IRP the Company makes no statement about what specific purchases or storage plans exist to satisfy this "fill" requirement. Staff believes that an improvement to this part of the IRP would be for Intermountain to define the linkage between identifying the necessary resources and performance under its natural gas acquisition policies and the Risk Management Program. *Id.*

The Company filed amended pages 43 and 44 to specifically identify the deficits for the planning period; however, the IRP does not match those deficits with planned resources. Staff believes that the IRP is intended to be a plan of how the Company will fulfill its obligations to supply its customers, but that piece is lacking in the IRP itself. *Id.*

Staff states that the Company set forth, in a response to a production request, how it originally planned to meet the specific lateral deficits that comprised the basis for much of the IRP itself. *Id.* at 13. Staff notes that the Company stated in its response that it "has further refined its plans to eliminate the projected distribution deficits in a more cost efficient manner" and that further study has resulted in delaying the need for these resources. *Id.* Staff also notes that the Company provided approximately two sentences to describe how the delay would be treated in each region. *Id.* at 14.

After reviewing this response, Staff believes that Intermountain should be directed to publish an addendum to the Resource Optimization section of the IRP. *Id.* Staff believes that the addendum should identify the individual deficits, each resource addition or change originally planned to satisfy those deficits, the changed situation and the resulting postponement of or newly planned resource that will be implemented to eliminate the deficit situations. *Id.* Staff recommends that the Commission require the Company to specifically describe and evaluate the additional resources that will be acquired, developed or constructed to eliminate demand deficits in commodity and transportation in all future IRPs. *Id.*

Two-Year Plan

Order No. 25342 mandated that each IRP include a two-year plan "outlining the specific actions to be taken by the utility in implementing" the IRP. Order No. 25342. Order No. 27024 granted the Company's request to submit a 5-year IRP rather than a 20-year IRP. Order No. 27024. In light of the Staff's experience in evaluating the Company's IRPs submitted

since the issuance of Order No. 27024, the Staff respectfully recommends that if the Commission desires for the Company to continue submitting IRPs with a five-year forecast window, the Commission may wish to consider striking the requirement for Intermountain to submit a two-year plan within the IRP. *Id.* Staff believes that the information presented in the five-year plan should provide information that would adequately fulfill the two-year plan's purpose, and the inclusion of the two-year plan within the Company's five-year IRP usually results in duplicative information that does not further illuminate the overall plan. *Id.* at 14-15.

Relationship Between the Plans (2006 IRP vs. 2004 IRP)

Staff believes that the IRP satisfies this requirement. In the comparative analysis section of the IRP, the Company addresses the differences between the 2004 IRP and the present IRP. Each major section of the IRP is addressed and the significant differences between the two plans discussed. *Id.* at 15.

Public Participation

The Staff believes that the Company met the requirement for public participation in the IRP process. Public involvement in the IRP process consisted of a half-day session wherein the Company met with customers, concerned consumer groups and Commission Staff to discuss the inputs to the IRP and questions and comments were solicited from all present. *Id.*

Legal Effect

The Staff had no comments on the legal effect of the IRP.

Staff Recommendations

After a complete evaluation of the Company's IRP, its methodology and conclusions, the Staff recommends that the Commission direct the Company as follows:

(1) That in future IRPs, models that were tested but subsequently rejected in favor of the documented models be reported (along with a summary of why the alternatives were rejected), including customer usage over seasonal and annual time periods, a range of natural gas price forecasts from multiple sources, and price elasticity of demand.

(2) That in future IRPs, the Company address the "full spectrum of DSM opportunities available to the Company, including conservation and efficiency measures" that were part of the IRP process prior to Order No. 27098 and that the IRP process be modified to require that a cost/benefit evaluation of all feasible DSM measures be performed and that the

Commission consider actions aimed at creating a mechanism that will result in all cost-effective DSM measures being implemented.

(3) To specifically describe and evaluate the additional resources that will be acquired, developed or constructed to eliminate demand deficits in commodity supply and transportation in all future IRPs.

(4) That the Company publish an addendum to the Resource Optimization section of the IRP addressing the changed lateral transportation capacity deficit positions stated in the Company's response to production request.

COMPANY REPLY COMMENTS

The Company submitted its Reply Comments on September 14, 2006. These reply comments addressed the Staff's Recommendations.

Recommendation No. 1

With regards to Staff's first recommendation, the Company notes that a primary driver of an IRP is a mathematically-based model created from a system of inputs and constraints. Reply Comments at 1. Many models with varying inputs and constraints are likely to be run, and the outcome of a model run may be "rejected" simply because the model could not run to completion or did not provide satisfactory results without violating any number of mode or mathematical constraints or criteria. *Id.*

The Company asserts that it does include seasonal differences in consumption in the IRP. Reply Comments at 2. The Company performs individual regression models for peak usage months of November through February, takes into account the unique usage numbers of the "shoulder months," and because there are very few heating degree days in July and August, it assumes that usage in those months is strictly baseload usage. *Id.*

Intermountain comments that its usage of NYMEX is reasonable as the price reflects the market consensus of future prices at a given point in time and, when combined with basin differentials, provide the most reasonable estimate of forecast prices available to the Company. *Id.* Further, the Company asserts that other forecast prices have no tie to the economic forecast provided by John Church, and there is no way to know whether the other price forecast would provide better or worse results. *Id.* Lastly, the Company comments that "adding several difference price forecasts to each demand scenario could result in a multitude of models when

the main focus of the Company and the Commission is to develop a most likely scenario from which to build an overall strategy or action plan.” *Id.*

Intermountain states that because its regression models already include the impact of declining usage. It believes that including price elasticity in the models would be “inappropriate because it has the potential to underestimate the Company’s peak-day requirements” *Id.* The Company believes that most of the decline in usage is related to non-peak load and “has masked the true peaking load that will occur” when Idaho again experiences severely cold weather. *Id.* at 3. The Company has installed metering equipment in the Sun Valley and Idaho Falls laterals, where the peak usage per customer is higher than the average peak user per customer for the rest of its customers. *Id.* The Company states that it has not yet collected sufficient data to conduct statistically significant analyses regarding the customer usage, but as it accumulates such data, it “look[s] forward to having enough data to test those correlations in a future IRP.” *Id.*

Recommendation No. 2

Intermountain states in its Reply Comments that it believes it has met the requirements of Order No. 27098 that it provide “a general explanation with each IRP filing of whether there are cost effective demand-side management (DSM) opportunities.” *Id.* at 4. Intermountain comments that it is continuing “in its efforts to improve customer education regarding the wise and efficient use of natural gas.” *Id.* The Company believes that market forces are the best motivator for conservation and that consumers have a “strong incentive” to conserve in their usage of natural gas as prices rise. *Id.* Intermountain provided a list of the available conservation and efficiency measures that it “promotes in its various communications with its customers.” *Id.* The Company maintains information, including videos, on its website to educate its customers regarding conservation, and also uses television advertisements in its education plan. *Id.* at 4-5. It promotes the Intermountain Gas Equipment Finance Program, and engages in community outreach with a half-day seminar for energy-assistance providers, among other outreach efforts. *Id.* at 5.

Intermountain encourages appliance dealers and builders, and its customers, to use the most energy efficient appliances available. *Id.* It is also a partner in the Rebuild Idaho energy efficiency campaign, and supports the Gas Technology Institute’s research regarding natural gas applications.

The Company asserts that moving from “the current market based approach to a system where DSM measures are Company funded through an incremental charge would put upward pressure on customers’ bills at a time when they can least afford it” *Id.* The Company does not believe a return to the DSM measures in place prior to Order No. 29078 would be warranted.

Recommendation No. 3

Intermountain believes that it has already supplied sufficient information on the resources that will be needed to meet demand. *Id.* The Company comments that the difficulty in providing specific information regarding shorter-term gas supplies, including “fill” resources “lies in the fact that they usually become available unexpectedly ...” and the timing and availability of these rarely is within the Company’s prior knowledge. *Id.* at 6.

Recommendation No. 4

The Company asserts that despite the errors in the data, they “in no way affected the optimization model outcome.” *Id.* at 6. Intermountain asserts that it has filed corrected data and believes that filing an addendum would be redundant. *Id.*

COMMISSION DECISION

Does the Commission wish to acknowledge that Intermountain Gas Company’s 2006 Natural Gas Integrated Resource Plan satisfies the requirements set forth by the Commission in Order No. 24342, as modified by Order Nos. 27024 and 27098? If so, does the Commission wish to accept the Plan for filing? Does the Commission desire to do anything else?



Cecelia A. Gassner