STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DG 06-105

ENERGYNORTH NATURAL GAS, INC.

2006 Integrated Resource Plan

Order Accepting Integrated Resource Plan

O R D E R N O. 24,941

February 13, 2009

APPEARANCES: McLane, Graf, Raulerson, and Middleton by Steven V. Camerino, Esq., and Thomas P. O'Neill Esq., Senior Counsel, on behalf of EnergyNorth Natural Gas, Inc.; the Office of the Consumer Advocate by Meredith A. Hatfield, Esq., on behalf of residential utility ratepayers; and the Staff of the Commission by Edward N. Damon, Esq.

I. PROCEDURAL HISTORY

On August 7, 2006, EnergyNorth Natural Gas, Inc. now doing business as National Grid NH (EnergyNorth or the Company)[1] filed an integrated resource plan (IRP). This filing was superseded by a revised IRP filing made on August 22, 2006. The IRP provided information related to EnergyNorth's forecast methodology and the design and management of its resource portfolio applicable to the period November 1, 2006 through October 31, 2011, and it contained a summary regarding compliance with the terms of the settlement approved by the Commission in *EnergyNorth Natural Gas, Inc. dba KeySpan Energy Delivery New England*, Order 24,531, 90 NH PUC 444 (2005) in Docket Nos. DG 04-133 and DG 04-175.[2]

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[1] At the time this docket commenced, EnergyNorth was doing business as KeySpan Energy Delivery New England.

[2] DG 04-133 was opened in connection with an IRP filed by the Company in 2004 and DG 04-175 pertained to a gas dispatch investigation. Both dockets were consolidated for procedural purposes. One of the important issues in DG 04-133 was the adequacy of an IRP filed by the Company in 2004 pursuant to a settlement approved by the Commission in *EnergyNorth Natural Gas, Inc. dba KeySpan Energy Delivery New England*, Order No. 24,323, 89 NH PUC 274 (2004) in Docket No. DG 03-160. The 2004 settlement in DG 04-133 and DG 04-175 required, among other things, that the Company file an IRP in 2006 that included a number of particular elements.

On August 16, 2006, the Office of Consumer Advocate filed notice of its participation on behalf of residential ratepayers consistent with RSA 363:28. On September 19, 2006, an order of notice was issued scheduling a prehearing conference for October 4, 2006. Hess Corporation filed a petition to intervene on September 29, 2006, which was granted at the prehearing conference. Staff and the parties filed a proposed procedural schedule, which the Commission approved on November 7, 2006. Staff filed the direct testimony of George R. McCluskey on February 7, 2007. On September 6, 2007, EnergyNorth filed the testimony of Elizabeth D. Arangio (Director of Gas Supply Planning), Leo Silvestrini (Director of Sales and Load Forecasting), and Theodore Poe (Manager of Energy Delivery), and Staff filed the surrebuttal testimony of Mr. McCluskey on November 30, 2007. A hearing was held on January 9, 2008.

On January 31, 2008, Staff filed a letter requesting that the Commission take administrative notice of certain materials[3] and proposing a briefing schedule. On February 8, 2008, EnergyNorth filed a letter regarding administrative notice of the 1998 EnergyNorth IRP and enclosing its response to a record request. On February 21, 2008, the OCA filed a written closing statement. On March 7, 2008, Staff filed its initial brief and on March 28, EnergyNorth requested a two week postponement of the filing of its brief, which was granted by secretarial letter dated March 4. On April 18, 2008, EnergyNorth filed its brief. On April 28, 2008, Staff filed a motion for leave to file rebuttal brief or to accept the motion in lieu of a brief.

II. SUMMARY OF ENERGYNORTH'S IRP FILING

According to the Company, its IRP filing demonstrates that the Company's planning process ensures that it maintains a reliable resource portfolio and energy supply to meet the forecasted needs of its customers at the lowest possible cost. To forecast demand, the Company

[3] At the hearing on January 9, 2008, the Commission granted the Company's request to take administrative notice of the entire record in Docket No. DG 04-133.

used an econometric demand model to determine annual incremental growth for traditional customer markets and specific market analysis for non-traditional markets including natural gas vehicles and large scale cogeneration projects. After annual incremental sales projections were made, the Company deducted the savings expected to be achieved through the implementation of its energy efficiency programs approved by the Commission in *EnergyNorth Natural Gas, Inc. dba KeySpan Energy Delivery New England*, Order 24,636, 91 NH PUC 273 (2006). The incremental growth projections were then added to the baseline normalized sendout for the May 2005 to April 2006 split year to determine the total forecasted demand. The end result of the demand forecasting process projects that sendout growth over the forecast period will average 361,200 MMBtu, or 2.6%, per year under normal weather conditions.

The IRP continued with a cost-benefit analysis which weighs the cost of not having sufficient resources, i.e., the cost of customer outages, including relight costs, damage repair and lost economic output, against the cost of acquiring sufficient resources to meet the design year and design day planning standards. The Company's analysis led it to define a design year as 7,680 effective degree days with a probability of occurrence of 1 in 47.32 years and a design day as 80 effective degree days with a probability of occurrence of 1 in 42.49 years. Combining the results of the planning standards analysis and the load forecasting process, the Company projected design year sendout to increase over the forecast period by an average of 382,100 MMBtu, or 2.5%, per year and design day sendout to increase by an average of 3,100 MMBtu, or 2.5%, per year.

In designing its resource portfolio, the Company used its SENDOUT linear programming model to determine the adequacy of its existing portfolio in meeting the forecasted requirements and to identify any shortfalls during the forecast period. The model allows the Company to determine the least cost dispatch of its existing resources and to identify the need for and type of additional resources required during the forecast period. The resources available to the Company include domestic long-haul and short-haul transportation contracts, underground storage contracts, Canadian and domestic gas supply contracts, and supplemental (peaking) resources. The Company's analysis indicated that its existing resource portfolio is adequate to meet base case customer requirements on a design day through the 2008-2009 heating season, after which the Company will need an additional 5,310 MMBtu per day, increasing to 19,660 MMBtu per day by the 2010-2011 heating season.

Next, the Company tested the adequacy of the portfolio design by evaluating how it would perform under alternative high and low demand scenarios and a cold snap scenario. The end result indicated that the Company's portfolio can meet the high and low demand scenarios with no additional incremental capacity or citygate delivered supply through the forecast period and that the Company has adequate resources available to meet cold snap sendout requirements. The IRP also described the Company's portfolio management activities that, according to the Company, minimize the cost of maintaining an adequate portfolio. The IRP concluded with a section summarizing its compliance with the terms of the settlement approved in Order No. 24,531.

III. POSITIONS OF THE PARTIES AND STAFF

A. EnergyNorth

In its pre-filed testimony, EnergyNorth maintained that the IRP complied with the settlement approved in Order No. 24,531, is adequate, appropriate and sufficient, and should therefore be approved. EnergyNorth stated that the parties to the settlement approved in that order intended that an IRP filing that included the specified changes to the IRP filed in 2004 would satisfy the terms of the settlement and thus be sufficient.

EnergyNorth also argued that Staff inappropriately relied on standards required by statute for electric utility IRPs. The Company noted that the legislature has not enacted IRP legislation applicable to gas utilities, indicating its intent that similar requirements should not be imposed on gas utilities. EnergyNorth asserted that the resource selection process proposed by Staff, requiring an analysis of an array of options that are hypothetically available to the utility at a given point in time prior to when the actual choice must be made, would be an academic and largely meaningless exercise because it would be based on hypothetical price quotes for potential projects. EnergyNorth asserted that because of the extremely limited value of this hypothetical resource selection process compared to the substantial burden it imposes, most states only require the utility to document the process by which the utility will select additional resources necessary to meet forecasted demand.

Regarding the question of demand-side planning, the Company stated that the IRP treated demand-side resources the same way as its 2004 IRP, i.e., as a reduction to forecasted demand. In addition, the Company stated that there is no need for a separate assessment of demand-side resources in the IRP because a full assessment was previously undertaken in the Company’s energy efficiency proceeding, Docket No. DG 06-032, which approved the cost effectiveness of programs and savings targets used in developing the IRP in this proceeding. The Company conceded that it had used New England-wide avoided costs instead of EnergyNorth-specific costs, but asserted that a company-specific avoided cost study would not yield different results and would be unnecessarily burdensome. The Company added that demand-side management programs differ from supply-side resources in that they are not dispatchable in response to need, their availability depends on the behavior of customers who can undercut the reliability of the measures, and demand-side measures may not achieve their estimated savings potential. In the Company's view, these differences justify a different modeling approach for gas utilities.

The Company criticized Staff's position on design planning standards, stating that Staff's approach is not based on a rigorous analytical process and its recommended standards are arbitrary. In addition, the Company stated that its approach is consistent with the approach recommended by the Staff's consultant in the 2004 IRP docket and is based on appropriate data sources. The Company's approach yielded a design day planning standard of 80 effective degree days compared to the 79 effective degree days recommended by Staff.

The Company recommended a planning horizon of five years. In the Company's view, beyond five years, there is a high level of uncertainty in the assumptions regarding load growth and other inputs to the models and uncertainty about the timing and availability of resource options. The Company stated that it filed an IRP approximately every two years but it followed the same process internally every year. Citing the importance of having the most up-to-date information on available supply and capacity options, the Company emphasized the importance of making decisions based on the resources actually available at the time the resource decision is made.

Regarding the question of a capacity reserve, the Company pointed out that its position is ultimately the same as Staff's, i.e., there is no need for a capacity reserve. The Company and Staff differ on the size of the capacity reserve if one is established: the Company believes that the reserve should be set at 100% of grandfathered (capacity-exempt) transportation customer demands while Staff believes it should be set at zero. In addition, the Company believes that all customers should pay for the reserve, whereas Staff believes that only grandfathered transportation customers should pay.

In its post-hearing brief responding to Staff's brief, the Company asserted that the central issue in this docket is whether the Commission should approve the IRP if it complied with the settlement approved in Order No. 24,531. The Company argued that the evidence unambiguously demonstrates that its IRP complies and it would be contrary to the public interest to reject the IRP for any of the reasons posited by Staff. Recognizing that Staff believes several additional considerations have been identified that are beyond the scope of the 2004 settlement and given the focus in this proceeding on past differences, coupled with the limited opportunity at hearing to fully address the appropriate standards for gas IRP filings, the Company believes that the Commission would not be well served by limiting itself to the record in establishing requirements for future gas IRP filings. Accordingly, the Company requested that the Commission reaffirm the importance of the settlement process by upholding the settlement it approved in Docket No. DG 04-133 and address the issue of the appropriate elements of gas integrated resource planning in future filings by ordering the parties to reconvene in an independently mediated, structured collaborative proceeding to resolve their remaining differences.

More specifically, the Company stated that it would not be in the public interest to judge the Company's 2006 IRP by standards that go beyond those approved in DG 04-133. The Company argued that Staff's proposal that the Commission expand those standards with respect to the IRP under review in this proceeding would plainly undermine the parties' expectations when they entered into the settlement approved in Order No. 24,531.

The Company also urged the Commission to reject the Staff's arguments that relied on its consultant's report filed in DG 04-133 and an earlier settlement approved by the Commission in DE 95-189, and reject the Staff's argument that the Commission should find that the IRP did not sufficiently comply with the requirements of that settlement. In addition, the Company argued that the earlier settlement, and other materials cited by Staff in its post-hearing brief, are not relevant to the present proceeding given the settlement in DG 04-133.

In urging the Commission to order the parties to participate in a collaborative proceeding, the Company argued that the record in this proceeding is not adequate to determine what changes should be made to the IRP process going forward, particularly given the contentious and incomplete presentations at hearing. The Company said it preferred the collaborative approach rather than litigation and, referring to demand-side management programs, the Company said it strongly supports the Commission's emphasis on these programs and its efforts to expand them where cost-effective to minimize the need for new supply-side resources. According to the Company, the issue between the parties is not whether demand-side management should play a role in IRP filings but instead how best to ensure that the Company can most effectively pursue gas demand-side opportunities. The Company concluded that there are multiple reasonable approaches to resource planning and the task at hand is to develop a process that meets current policy goals and establishes a clear and reasonable resource planning process.

B. Staff

In its pre-filed direct testimony, Staff stated that EnergyNorth's IRP addresses the issues required by Order No. 24,531 but the Company does not have a formal plan to meet at least cost the projected incremental increase in customer demand over the planning period. Accordingly, Staff recommended that the IRP be found not adequate in the instances specified in its testimony.

In particular, Staff objected to the Company's cost-benefit analysis used to support its proposed design day and design year planning standards, asserting that it produced more questions than answers, potentially resulting in unnecessary costs for consumers. Applying its definition of least cost planning, i.e., the systematic assessment of all reasonably available demand-side and supply-side resource options to meet customer requirements over the planning period, Staff asserted that the IRP contained virtually no discussion, much less evaluation, of available supply-side resource options and completely omitted any demand-side assessment. In addition, Staff complained that the IRP did not discuss the process for integrating cost effective demand-side and supply-side resources and did not identify the preferred portfolio of existing and new resources that would satisfy the forecasted loads at least cost over the planning period. Finally, Staff suggested that the Company's recommendation that the level of any capacity reserve authorized by the Commission be set at 100% of grandfathered customer demands is not supported by evidence that firm sales customers would benefit from such a reserve.

Staff said that the IRP addresses the issues required by Order No. 24,531 but maintained that the IRP was insufficient. Staff argued that the express terms of the 2004 settlement did not provide that the IRP would be approved if it includes the changes specified in the agreement and that the Commission retains full discretion to assess the IRP on its own merits. Staff contended that the Commission may decide in this docket whether or not to adopt Staff's recommended filing requirements and IRP policy preferences expressed in *Public Service Company of New Hampshire*, Order No. 24,695, 91 NH PUC 527 (2006). Staff conceded that the legislature has not enacted a statute governing IRPs filed by gas utilities, but maintained that the proper conclusion to be drawn from this is that the legislature has not restricted the Commission's discretion to make policy choices regarding gas utility IRPs.

Regarding design planning standards, Staff recommended that the Company employ Monte Carlo simulation to develop a probability distribution of EnergyNorth's weather and base its design day standard on a statistical analysis of that distribution. Staff stated that although the Company used a Monte Carlo simulation to develop a probability distribution of EnergyNorth's weather, it used that distribution to develop inputs to a financial analysis which was then used as the basis for determining the design day and design year standards. Staff asserted that the financial analysis used by the Company was based on cost data that understated its current incremental supply cost estimates and did not include the associated commodity costs, thus overstating the appropriate design day and design year standards.

Regarding the Company's supply-side resource assessment, Staff stated that instead of evaluating the costs of resource options that are capable of filling the resource need, the Company appeared to be asking the Commission to allow it to make resource selections with little or no regulatory oversight and without the aid of cost estimates for resource alternatives. As an example of the risks created by such a process, Staff offered the need for incremental resources in 2009-2010 under the Company's base case design day load forecast identified in the IRP. Staff stated that to satisfy this need the Company had initiated discussions with Tennessee Gas Pipeline on an investment that could cost customers over $80 million over twenty years without the benefit of an assessment of alternative resources, thus exposing customers to the substantial risk of excess supply costs. Staff argued that if the Company had included such an assessment in the IRP, the risk could have been substantially mitigated.

Staff disagreed with the Company's argument that including a demand-side assessment in the IRP would duplicate work done in Docket No. 06-032, the Company's most recent energy efficiency proceeding. Staff stated that it is not clear whether the programs approved in that docket are cost effective compared to the Company's supply alternatives and that no attempt was made to determine the optimal amount of cost effective demand-side resources that could be included in the Company's resource portfolio.

Staff maintained that compliance with the settlement agreement approved in Order No. 24,531 is not the only criterion for determining whether the IRP is adequate but, even if it is, the IRP is not adequate. In Staff's view, the IRP failed to achieve the fundamental objective of integrated resource planning[4] and does not contain certain basic elements that the Commission has found to be essential.[5] In addition, Staff argued that the IRP failed to sufficiently address the Company's practices regarding longer-term portfolio optimization contemplated by the settlement approved in Order No. 24,531.

Staff denied that its proposed resource selection process is an academic exercise. According to Staff, the fact that the costs of long-lived resources are uncertain does not lessen the value in having EnergyNorth undertake an economic comparison of the alternatives in the IRP. As proof of the value of economic comparisons, Staff pointed to the evaluation the Company conducted in DG 07-101. Staff also contended that the Company's failure to assess the costs of constructing and operating a peaking facility prior to entering into negotiations with Tennessee Gas Pipeline for incremental supply unnecessarily exposed customers to the risk of excess supply costs and if an assessment been included in the IRP, the cost risk would have been mitigated and the need for a separate docket to review the reasonableness of the Company's

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[4] According to the *Primer on Gas Integrated Resource Planning* (1993) published by the National Association of Regulatory Utility Commissioners (NARUC), this objective ensures that utilities assess a comprehensive set of supply- and demand-side options based on consistent planning assumptions in order to create a resource mix that reliably satisfies customers' short-term and long-term energy service needs at the lowest cost. The *NARUC Primer* commented that the notion of the role of gas utilities as providers of energy services, and not simply gas therms, is an integral part of integrated resource planning initiatives.

[5] Staff complained that because the IRP contains virtually no discussion of the available supply-side and demand-side resource options, its avoided cost estimates are not based on EnergyNorth-specific avoided supply costs, and the costs of acquiring the available resources are not addressed at all, the IRP fails to achieve the cost minimization purpose of integrated resource planning.

actions would have been eliminated. In a similar vein, Staff disputed the Company's claim that integrated resource planning applies only to vertically integrated utilities.

Staff questioned the Company's process for determining its reliability planning standards and argued that the process was not consistent with Staff's consultant's recommendation in Docket No. DG 04-133 and was not expressly authorized by the 2004 settlement approved in Order No. 24,531. Staff also argued that the Company's cost-benefit analysis employed to establish its reliability planning standards is flawed because of the wide range of "correct" cost-benefit solutions and because the costs used in the analysis were inaccurate. Staff concluded that the Company's design day standard of 80 effective degree days cannot be substantiated. Instead, Staff recommended that the Company adopt 79 effective degree days as its design day planning standard, which is consistent with the Company's past practice relying on a statistical analysis.

Staff maintained that the inclusion of demand-side assessments in an IRP would not duplicate work already being done in energy efficiency proceedings. Staff also argued that even assuming demand resources are less reliable than supply resources, gas utilities should undertake demand-side assessments in integrated resource planning because reliability differences will be taken into account as part of the integration process.

Staff and the Company agreed that a planning horizon of five years is appropriate though Staff emphasized that the length of the planning horizon should not limit the time period over which long-lived resource options are evaluated. Staff and the Company also agreed that there is no evidence to support the creation of a capacity reserve. However, contrary to the Company's argument that all customers should pay for a capacity reserve if one is required, Staff argued that if sales customers are unlikely to benefit from a capacity reserve, they should not have to pay any of the costs to acquire back-up resources. Staff was also troubled by the logic inherent in the

Company's position that a capacity reserve, if any, should be set to meet all the needs of grandfathered transportation customers. Staff stated that if there is no evidence that sales customers would benefit from a capacity reserve, a rational person would argue for the smallest possible reserve, not the largest.

According to Staff, because the IRP is not adequate in certain respects related to the demand forecast, the demand-side and supply-side assessments and the integration of those assessments, the IRP should not be approved and the Company should be directed to file its next IRP correcting these deficiencies, with the filing date to be determined by the Commission. Following the filing of the Company's post-hearing brief, Staff filed a motion for leave to file rebuttal brief or to accept the motion in lieu thereof. Staff stated that the Company argued for the first time in its post-hearing brief that there was a limited opportunity at hearing, and the record is not adequate, to address the appropriate standards for gas IRPs. Responding to the Company's argument that it should have been given an opportunity to conduct discovery on Staff's "new" position, i.e., that the Company's compliance with the settlement agreement was insufficient, and it should have been given an opportunity to prepare a response. Staff contended that, if permitted to file a rebuttal brief, it would demonstrate that the Company had every opportunity to present its position on the appropriate standards for gas integrated resource plans.

C. OCA

In its written closing statement, the OCA took no position on the adequacy of the IRP given the circumstances of this docket and Docket No. DG 07-101, the docket opened to review the Company's proposed agreement with the Tennessee Gas Pipeline for additional firm capacity on the Concord Lateral. According to the OCA, the scope of that review went beyond a traditional IRP analysis. The OCA recommended instead that EnergyNorth include additional information in its next IRP filing, including a full analysis of all cost-effective demand-side management and energy efficiency opportunities. OCA stated that the depth and scope of this analysis should be comparable to any analysis of supply-side options, and, to the extent not otherwise required, include a comprehensive assessment of all benefits and costs. The OCA deferred to the judgment of the Commission and Staff on the remaining requirements of the next IRP. The OCA concluded that continued analyses by the Commission of EnergyNorth's general forecasting methodologies and procurement and planning processes are lawful, necessary and reasonable.

IV. COMMISSION ANALYSIS

We begin by ruling on two preliminary matters. First, regarding Staff's motion for leave to file rebuttal brief or to accept the motion in lieu thereof, we accept the statements made in Staff's motion. Second, we take administrative notice of the items identified in Staff's letter filed on January 31, 2008. Staff's list is as follows:

Exhibit 14--*Granite State Electric Co.*, 74 NH PUC 325, Order No. 19,546 (1989)

Exhibit 15--*Public Service Company of New Hampshire*, Order No. 24,695 (2006)

Exhibit 16--*EnergyNorth Natural Gas, Inc. dba KeySpan Energy Delivery New England*, Order No. 24,323 in DG 03-160 (2004)

Exhibit 17--Docket No. DG 06-032: Settlement Agreement and Order No. 24,636 (2006)

Exhibit 18--Docket No. DR 95-189: Stipulation and Agreement

Exhibit 19--Docket No. DR 98-134:
- Letter from Northern Utilities, Inc. to Commission filed on June 10, 1998
- Secretarial letter dated October 12, 1998
- EnergyNorth Natural Gas, Inc. Integrated Resources Plan filed on November 30, 1998
- Secretarial letter dated June 8, 2000.

EnergyNorth's central argument regarding the adequacy of the IRP is that it complied with the IRP-related provisions of the settlement approved in Order No. 24,531 and should therefore be approved. As evidence of compliance, the Company relied heavily on Staff's pre-filed testimony that the IRP "addresses the issues required by Order 24,531." The Company complained that Staff did not challenge the sufficiency of its compliance until the hearing, after the pre-filed testimony was submitted. At hearing, Staff sought to explain why the IRP did not sufficiently comply with the settlement in respect to section II.A.6 (requiring the Company to include a section setting forth the Company's planning practices regarding longer term portfolio optimization, including the identification of available and potentially available supply resources and their potential costs, a discussion of the opportunities for utilizing available resources, a description of the portfolio optimization model, the identification of the mix and timing of resource additions and subtractions that are expected to minimize costs over the long term under a given set of price and demand forecasts, and a discussion of the role of peaking plants in the overall portfolio and the identification of supply resources that are unlikely to be available because of particular circumstances). Staff reiterated this argument in its post-hearing brief.

In addition, although Staff did not directly assert the Company's non-compliance with section II.A.4 (requiring the Company to utilize a Monte Carlo weather forecasting analysis for purposes of establishing design planning standards), Staff argued that the Company's process for determining its reliability planning standards is not consistent with the report of Staff's consultant in Docket No. DG 04-133 and 04-175 and was not expressly authorized by the settlement approved in Order No. 24,531. Staff complained that although the Company used a Monte Carlo simulation to develop a probability distribution of EnergyNorth's weather, it used that distribution to develop inputs to a financial analysis which was then used as the basis for determining the design day and design year standards. Staff contended that this is very different from basing those standards on a statistical analysis of the probability distribution.

While we recognize that the settlement does not expressly state that the IRP will be approved if the settlement is complied with, we agree with the Company that it would not be appropriate to judge the adequacy of the Company's 2006 IRP by standards that go beyond those we approved in Order No. 24,531. At hearing and in its post-hearing brief, Staff identified several aspects of the IRP that arguably represent deficiencies in full compliance with the settlement. Given the present procedural posture of the case, however, we will treat the IRP filing as the Company's good faith effort to comply with the requirements of the settlement and we will therefore accept it as such. Consistent with the Commission's past practice, our acceptance of the IRP does not constitute approval of specific resource options selected by the Company and we will review the prudence of a particular resource decision in the context of a rate case or similar proceeding where EnergyNorth seeks recovery of the costs. *See Granite State Electric Company*, 74 NH PUC 325, 328, 331, Order No. 19,546 (1989).

We are persuaded that the preparation and filing of IRPs by the Company subject to our review serves important purposes and the filing of IRPs should be continued.[6] The Commission noted long ago that the purpose of requiring utilities to file IRPs is to evaluate whether they are performing resource planning properly. *Id*. More recently, we have found that the filing of IRPs helps promote communication between the Company and Staff regarding the Company's planning process and their understanding of each others' views regarding the Company's gas supply needs and gas resource decisions. *See EnergyNorth Natural Gas, Inc. dba Keyspan*

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[6] The Company hinted in pre-filed testimony that the Commission may lack authority to require the filing of IRPs by gas utilities. The Company did not pursue this point at hearing or afterward and it never objected to the Commission's authority during the many years it was filing IRPs before this docket began. We disagree with the Company's suggestion that the Commission lacks authority to require the filing of IRPs by gas utilities. *See* RSA 374:3, and 4.

Energy Delivery New England, 89 NH PUC 274, 279, 284, Order No. 24,323 (2004). And according to the *NARUC Primer on Gas Integrated Resource Planning*,

> "the fundamental objective of IRP planning is to insure that utilities assess a comprehensive set of supply- and demand-side options based on consistent planning assumptions in order to create a resource mix that reliably satisfies customers' short-term and long-term energy service needs at the lowest total cost. . . . Uncertainties and risks associated with different external factors and resource portfolios should be considered by the gas [local distribution company] as part of this comprehensive assessment of resource options."

See also, Public Service Company of New Hampshire, Order No. 24,695, 91 NH PUC 527, 539 (2006) ("the primary objective . . . [is] to develop and implement an integrated resource plan that satisfies customer energy service needs at the lowest overall cost consistent with maintaining supply reliability" (citation omitted)).

In this docket, Staff provided an example of the importance of advanced planning for costly resource decisions. Staff testified that to satisfy a predicted shortfall in resources during the planning period, the Company had initiated discussions with Tennessee Gas Pipeline regarding an investment that could cost customers $80 million over twenty years without the benefit of an assessment of alternative resources, thus exposing customers to the substantial risk of excess supply costs. In Staff's view, if the Company had included such an assessment in the IRP, the risk could have been substantially mitigated. Although it turned out that the Commission eventually opened a docket at the Company's request that was specifically devoted to the cost-effectiveness of the Company's proposal, Docket No. DG 07-101, the docket might not have been necessary if the Company had included such an assessment in the IRP.

The Company maintained that that the record in this proceeding is not adequate to determine what changes should be made to the IRP process going forward. We disagree. The order of notice specified that the Company's filing raised issues related to the appropriateness of EnergyNorth's planning process, demand forecasts, gas supply and demand resource assessments and the integration of supply and demand resources. In testimony, Staff discussed its views of the appropriate elements of an IRP and the Company challenged many of them. In view of the differing views of the appropriate elements of an IRP, we take this opportunity to provide guidance regarding our expectations for the next IRP to be filed by the Company.

Planning Period. There was no dispute between the Company and Staff that the planning period should be five years. We find five years to be an appropriate planning period subject to the proviso recommended by Staff that the length of the planning horizon should not limit the time period over which long-lived resource options are evaluated.

Demand Forecast. Consistent with the settlement approved in Order No. 24,531, the demand forecast should continue to be based on the econometric forecasting model developed by the Company pursuant to the settlement.

Definition of Design Planning Standards. Also consistent with the settlement, the Company should continue to use a Monte Carlo weather forecasting analysis for purposes of establishing design planning standards. The difference of opinion between the Company and the Staff on this point related to how the Monte Carlo analysis should be used in establishing design planning standards.

Staff recommended that the Company employ Monte Carlo simulation to develop a probability distribution for its weather and base its design planning standards on a statistical analysis of that distribution, consistent with its prior practice and that of another major gas utility operating in the state, Northern Utilities, Inc. The Company argues that Staff's approach is not based on a rigorous analytical process and Staff's recommended standards are arbitrary. We conclude that it is preferable that the Company base its design day and design year standards on a statistical analysis of the Monte Carlo based probability distribution as recommended by Staff.

In addition to defining design day and design year planning standards, the Company should assess the capability of its resource portfolio to satisfy these two planning standards and meet demand requirements during a cold snap. The Company should also evaluate how its portfolio would perform under alternative high and low demand scenarios.

In its IRP, the Company stated that planning for a capacity reserve in order to meet the potential gas supply needs of grandfathered firm transportation customers is not appropriate,[7] a position with which Staff agreed. The Company explained that grandfathered load has remained constant since 2003-2004 and there have been minimal delivery failures attributable to under-deliveries by suppliers on behalf of transportation customers. Nonetheless, assuming a capacity reserve is authorized by the Commission, the Company recommended that the level of any capacity reserve be set at 100% of grandfathered customer demands. Staff objected to this recommendation on the ground that firm sales customers would not benefit from such a reserve. Based on the record in this proceeding, we have no reason to conclude that a capacity reserve would benefit firm sales customers. Accordingly, the Company's next IRP should address whether circumstances have changed such that a capacity reserve is warranted. Assuming the Company concludes that a capacity reserve is not warranted, the Company should not plan for one.

Supply-Side Resource Planning. The Company and Staff disagreed about how rigorous and detailed the discussion of supply-side resource planning should be.[8] The Company's IRP included what amounts to a description of its supply-side resource decision-making

[7] Grandfathered customers are those commercial or industrial customers who are exempt from the capacity assignment requirements established by the Commission in connection with the unbundling of capacity and supply services.

[8] Supply-side planning comprehends planning for obtaining both supply and capacity.

process/portfolio management activities. Staff argued that, as revealed in the IRP, the Company's supply-side planning was inadequate because it

> "'provides very little information on [EnergyNorth's] plans to meet forecast requirements over the planning period.' Also, while the gas commodity and pipeline capacity contracts that are scheduled to expire during the planning period are identified, 'there is no discussion of the cost effectiveness of renewing those contracts at existing or alternate levels or replacing them with new contracts' and that 'there is virtually no discussion of available options (such as proposed new pipeline projects, proposed new storage projects, or expansion of existing LNG LP-Air capacity) to supply the balance between existing resources (including or excluding expiring contracts) and forecast demand, let alone an analysis of the costs of these options relative to each other.'" (citations omitted.)

The Company countered that the resource selection process proposed by Staff, requiring an analysis of an array of options that are hypothetically available at a given point in time prior to when the actual choice must be made, would be an academic and largely meaningless exercise because it would be based on hypothetical price quotes for potential projects. We disagree because there is value in having the Company perform a systematic assessment of potentially available supply-side options based on a given set of realistic cost and demand forecasts. In addition, we are concerned that if systematic advance planning is not done, reasonably available supply options may be foreclosed simply by the passage of time. We recognize, of course, that the plans must be based on price forecasts and cost estimates that may well be different from the actual circumstances when the resource decision must be made. Moreover, the Company's actual resource decisions must be made prudently based on the circumstances existing at the time the decision is made.

Demand-side Resource Planning. The Company's IRP treated demand-side resources as a reduction to forecasted demand based on the expected results of its demand-side management and market transformation plan approved by the Commission in *EnergyNorth Natural Gas, Inc. dba Keyspan Energy Delivery New England,* Order No. 24,636, 91 NH PUC

273 (2006). The Company argued that a separate assessment of demand-side resources in the IRP was not necessary because a full assessment was undertaken in the gas energy efficiency docket, DG 06-032, resulting in Order No. 24,636. Staff, on the other hand, pointed out that inclusion of demand-side assessments in an IRP would not duplicate the work done in the gas energy efficiency docket because the Company had used New England-wide avoided cost data instead of avoided costs specific to EnergyNorth and no attempt was made to determine the optimal amount of cost effective demand-side resources that could be included in the Company's portfolio.

Staff's view of the scope of Order No. 24,636 is correct. The settlement agreement approved by the Commission was based on the parties' agreement that it was in the public interest to continue to offer energy efficiency, demand-side management and market transformation programs to all firm gas customers of EnergyNorth. We note that the Company in its post-hearing brief confirmed its support for the Commission's emphasis on demand-side management programs and its efforts to expand them where cost-effective to minimize the need for new supply-side resources.

Similar to what the Commission required of Public Service Company of New Hampshire in *Public Service Company of New Hampshire*, Order No. 24,695, 91 NH PUC 527, 540-542 (2006), the Company's next IRP should include a systematic evaluation of reasonably available demand-side management programs, including a description of the methodology for calculating avoided costs (i.e., cost savings) associated with *not* having to purchase additional gas supplies or constructing new peaking capacity. The Commission notes that new information on the technical and economic potential of demand-side resources in EnergyNorth's service area has recently become available with the public release of the report on "Additional Opportunities for

Energy Efficiency in New Hampshire" by GDS Associates, the consultant hired by the Commission to investigate the potential for energy efficiency in New Hampshire. We will require EnergyNorth to use this information as the basis of its demand-side assessment in its next IRP filing.

Once the avoided cost methodology is developed, the resulting avoided costs should be compared to the costs of implementing the demand-side resources. As was the case with Public Service Company of New Hampshire, it is appropriate that EnergyNorth use the total resource cost test for determining which of the potential demand-side resource programs are cost effective. Although we expect that the Company's evaluation of demand-side resources will be done on an equivalent basis with its evaluation of supply-side resources, we anticipate that this evaluation will reflect any differences in the reliability of demand-side measures compared to supply-side resources.

Integration of Supply-side and Demand-side Resources.

The Company should describe its process for integrating demand-side and supply-side resources so that customer needs will be met at the lowest reasonable cost while maintaining reliability and taking into account other non-cost planning criteria. Among other things, the Company should discuss how differences in the reliability of supply-side and demand-side resources are taken into account in the integration process and whether it expects to acquire the demand-side resources through Company-sponsored programs and/or programs acquired on its behalf by third parties through a request for proposal process.

We will require the Company to file its next IRP incorporating the above-described elements on or before one year from the date of the issuance of this Order. We expect to utilize the same criteria for reviewing the IRP that the Commission described in Order No. 19,546, namely, completeness, comprehensiveness, integration, feasibility and adequacy of the planning process.

Based upon the foregoing, it is hereby

ORDERED, the Company's 2006 IRP is accepted, as set forth above; and it is

FURTHER ORDERED, that the Company file its next IRP on or before February 28, 2010, reflecting the elements described above.

By order of the Public Utilities Commission of New Hampshire this thirteenth day of February, 2009.

Thomas B. Getz Chairman	Graham J. Morrison Commissioner	Clifton C. Below Commissioner

Attested by:

Debra A. Howland
Executive Director