Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: February 4, 2016 ..... *Agenda Item #__3_

Company: Northern States Power Company (Xcel)

Docket No. **G-002/M-15-727**
In the Matter of a Petition by Northern States Power Company (Xcel) for Approval of Changes in Contract Demand Entitlements.

Issue: Should the Commission approve Northern States Power Company (Xcel) proposed demand entitlement capacity (levels) and allow Xcel to recover associated demand costs through the monthly Purchased Gas Adjustment effective November 1, 2015?

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Relevant Documents

G-002/M-15-727
Xcel Initial Petition (TRADE SECRET) .....August 3, 2015
Department of Commerce (Department) Comments (TRADE SECRET)..... September 11, 2015
Xcel Supplemental Filing –(TRADE SECRET) .....October 30, 2015
Department Supplemental Comments .....December 7, 2015

G-002/M-14-654
PUC Order .....October 16, 2015
Xcel Compliance Filing .....November 16, 2015

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Statement of the Issue

Should the Commission approve Northern States Power Company (Xcel) proposed demand entitlement capacity (levels) and allow Xcel to recover associated demand costs through the monthly Purchased Gas Adjustment effective November 1, 2015?

Introduction

Northern States Power Company (Xcel) has entered into various natural gas supply and interstate pipeline contracts to provide natural gas services to its customers. Xcel annually reviews and updates these contracts to ensure continued system reliability of firm natural gas supply deliveries to its customers.

Xcel's annual demand entitlement[1] petition requests Commission approval to recover certain cost and capacity changes in these interstate pipeline transportation entitlements, supplier reservation fees, and other demand-related contract costs and to implement the rate impact of this petition through its Purchased Gas Adjustment (PGA)[2] charges effective November 1, 2015.

PUC staff reviewed Xcel's 2015-2016 Demand Entitlement petition, and the various rounds of comments filed by the Department and Xcel. No unresolved issues remain between the parties. The Department recommended[3] that the Commission:

- Approve Xcel's proposed level of demand entitlements as amended by its Supplemental Filing; and
- Allow Xcel to recover associated demand costs through the monthly Purchased Gas Adjustment effective November 1, 2015.

PUC staff agrees with the Department's December 7, 2015 recommendations.

In Xcel's last demand entitlement docket, docket 14-654, staff expressed concern that Xcel was unable to use traditional regression analysis in its design-day analysis because it does not have daily interruptible customer data available. These briefing papers provide Xcel's response to the Commission's requirement in docket 14-654 that Xcel explain why daily interruptible data is not available for use in a design day regression analysis.

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[1] D*emand entitlements* can be defined as reservation charges paid by the Local Distribution Company (LDC) to an interstate natural gas pipeline to reserve pipeline capacity used to store and transport the natural gas supply for delivery to its system and contract charges associated with the LDC procuring its gas supply; these costs are recovered through the LDC's PGA.

[2] The Purchased Gas Adjustment is a mechanism used by regulated utilities to recover its cost of energy. Minn. Rules 7825.2390 through 7825.2920 enable regulated gas and electric utilities to adjust rates on a monthly basis to reflect changes in its cost of energy delivered to customers based upon costs authorized by the Commission in the utility's most recent general rate case.

[3] Department December 7, 2015 *Supplemental Comments*.

Minnesota Rules – Filing upon a Change in Demand

Minnesota Rule, part 7825.2910, subpart 2[4] requires gas utilities to make a filing whenever there is a change to its demand-related entitlement services provided by a supplier or transporter of natural gas.

Xcel's Forecast of its Design Day (DD) Requirements

Xcel calculated its system 2015-2016 Design Day (DD) requirements at 815,451 Dth/day with Minnesota (MN) DD requirements at 717,478 Dth/day and North Dakota (ND) DD requirements at 97,973 Dth/day. The Department noted that Xcel projected that its system (Minnesota and North Dakota) design-day requirements will increase by 5,781 Dth/day, a 0.71 percent increase. Xcel's Minnesota design-day requirements reflect an increase of 1,533 Dth/day, or an increase of 0.21 percent, whereas its North Dakota design-day reflects an increase of 4,247 Dth/day, or a 4.53 percent increase. "[T]he smaller rate of increase in forecasted Minnesota gas consumption indicates that the proportion of design-day responsibility on the Xcel system continues to shift from Minnesota to North Dakota."[5]

The Department concluded that Xcel's forecasting of design-day levels were performed appropriately.

Design Day and Demand Entitlement Modelling

Xcel

Since its 2004-2005 demand entitlement petition, Xcel has used its two-stage approach in developing its Design Day (DD) requirements forecast ; 1) Actual Peak Use per Customer Design Day (UPC DD); and 2) Average Monthly Design Day (Avg. Monthly DD). Prior to the 2004-2005 petition, Xcel used a single methodology, based on a linear regression calculation.

Xcel believes that its models adequately estimate its natural gas DD requirements and that the current use per customer estimate should be maintained. Xcel stated that it will continue to evaluate the models each year to determine if they are adequately projecting natural gas supply needs and adjust the use per customer estimate if necessary.

Department

The Department concluded that Xcel's forecasting techniques were reasonable. But, as noted in Docket No. G002/M-13-663, the Avg. Monthly DD method might not represent the best option available for forecasting DD requirements. The Department commented that there were potential issues with this model: 1) where Xcel's model assumes natural gas consumption is

[4] Filing upon a change in demand, is included in the Automatic Adjustment of Charges rule parts 7825.2390 through 7825.2920 and requires gas utilities to file to increase or decrease demand, to redistribute demand percentages among classes, or to exchange one form of demand for another.

[5] Department September 11, 2016 *Comments* at page 5.

constant at all temperatures; and 2) where the average monthly DD estimates are based on the average demand area consumption at a given temperature, as opposed to the use of peak day.

Based on its conversations with Xcel, the Department concluded that using a regression model based on daily consumption data would be very difficult due to the fact that it would require estimation of daily interruptible load. Further, the Department believes that Xcel's two-stage approach counteracts some of the inherent issues of the Avg. Monthly DD method which generally results in higher forecasted DD requirements than those produced using the UPC DD method.

The Department agreed with Xcel that the Company should continue to use the two methods to develop its design-day estimate and update the UPC DD method when appropriate.

PUC staff

In Xcel's last demand entitlement docket, Docket No. G002/M-14-654, staff raised a concern that Xcel cannot use traditional regression analysis because it does not have daily interruptible customer data available. Staff was concerned that by not using regression analysis, Xcel's calculations may produce skewed results that could mean higher DD requirements and associated costs for its firm customers.

In docket 14-654, staff suggested that the Commission may wish to ask Xcel to explain why daily interruptible data is not available for use in a DD regression analysis model given Xcel's tariff language which requires automated telemetering for interruptible and other services.

In its October 16, 2015 Order in Docket No. G002/M-14-654, the Commission's Order Point 3:

> Required Xcel to explain why daily interruptible data is not available for use in a design day regression analysis model in a compliance filing with 30 days of the Commission's order in this matter;

In its November 16, 2015 compliance filing in Docket No. G002/M-14-654, Xcel explained why daily interruptible data is not available for use in a design day regression analysis model as follows:

> Data availability for use in Design Day analysis is driven by the manner in which billing data is collected and stored. Xcel Energy's data utilized in Design Day regression analysis is sourced from billing information. Currently, Interruptible Customers utilize one of two types of meters, in compliance with Xcel Energy's tariff. Both meters are used during a curtailment event. However, one of the meter types does not associate a time stamp with the throughput information collected. The lack of a time stamp results in an inability to determine what throughput occurred in a specific 24-hour period. As a result, only the monthly totals are stored for billing purposes and available for use in Design Day analysis.
>
> Developing a daily regression model would require a switch to Town Border Station (TBS) data provided by Interstate Pipelines to obtain daily throughput

> information. However, one TBS will typically support multiple LDC delivery meters making the location information for the actual gas consumption less specific. In addition, the TBS data is measured as total throughput, not by rate class. Therefore, we would be required to develop a method for removing the interruptible customer usage from the total throughput resulting in greater imprecision in the final quantity.
>
> In contrast, Xcel Energy's current methodology, as described in our annual contract demand filings, does not contain or require interruptible throughput to be estimated and produces regression results that are very robust with most R-squares over 95%. Therefore, revising the methodology to include interruptible throughput is unlikely to yield better predictive results.

Staff agrees with Xcel and the Department. For now, staff believes that Xcel's use of the two forecast methodologies is reasonable and Xcel should continue to use the two methods to develop its design-day estimate. Xcel should also update the UPC DD method when appropriate.

Xcel's Demand Entitlement Contract Levels

To transport its DD requirements, Xcel uses a series of interstate pipeline contracts, storage and peak shaving capability to meet its annual system transportation requirements, i.e. demand entitlements. Xcel initially proposed to increase its system design-day capacity by 10,132 Dth, from 856,048 Dth to 866,180 Dth, with Minnesota capacity increasing from 756,918 Dth to 762,152 Dth.[6] However, when Xcel filed its October 30, 2015 Supplemental Information, it stated that it had recently determined that the Sibley Propane Plant would have limited reliable operating output above 19,200 Dth/day. Xcel had originally included 46,000 Dth/day of peak shaving capacity for this plant in its design-day capacity level of 866,180 Dth. In its supplement, Xcel proposed to reduce the 46,000 Dth/day to 19,200 Dth/day, thus reducing its over-all proposed system design-day capacity from 866,180 Dth to 839,380, a reduction from the previous year's design-day capacity of 856,048 Dth.

The Department reviewed Xcel's proposed changes and recommended that the Commission approve Xcel's proposed level of demand entitlements as amended by its Supplemental Filing. PUC staff agrees.

Xcel's Reserve Margin

The Reserve Margin is the difference between Xcel's design-day capacity and DD requirements. Xcel initially proposed a reserve margin of 6.2 percent.[7] However, after adjusting for Sibley Propane Plant daily output to 19,200 Dth/day it left Xcel with an estimated reserve margin of 2.9 percent.[8] Xcel stated that, while the Sibley Plant adjustment lowers its reserve margin, it does

[6] Xcel's petition at Attachment 2, Schedule 1.
[7] Xcel's petition at Attachment 2, Schedule 1, page 2.
[8] Xcel's October 30, 2015 *Supplemental Filing* at Attachment 2, Schedule 1, page 2.

have adequate resources in place to meet firm customers' Design Day Requirement for the upcoming winter. Xcel also stated that it is currently exploring alternatives for returning the facility to full service for the next heating season.

The Department concluded that, since Xcel's estimated design-day requirements are higher than the peak-day send-out in any of the past 10 years, Xcel's proposed 2015-2016 reserve margin of 2.9 percent is not unreasonable. PUC staff agrees.

Xcel's Demand Entitlement Contract Costs and MN/ND Allocation

Xcel allocates the cost of the system resources between Minnesota and North Dakota based on design-day requirements. The Ave. Monthly DD results are used to update the allocation factor, which is calculated by dividing the design day forecasted demand for Minnesota (717,478 Dth/day) by the same demand for the Company's system (815,452 Dth/day). Reflecting the faster growth in North Dakota compared to Minnesota, the Minnesota allocation factor fell from 88.42 percent to 87.99 percent.

Attachment 2 to the Department's December 7, 2015 Supplemental Comments compares the October 2015 PGA costs (before changes) to the November 2015 PGA costs (after changes) for several customer classes. According to the Department:

- Annual demand costs decrease by $0.0145/Dth, or approximately $1.26 annually, for the average Residential customer consuming 87 Dth annually;
- Annual demand costs decrease by $0.0146/Dth, or approximately $4.15 annually, for the average Small Commercial customer consuming 284 Dth annually;
- Annual demand costs decrease by $0.0144/Dth, or approximately $21.06 annually, for the average Large Commercial customer consuming 1463 Dth annually; and
- No Change in annual demand costs for the average Small Interruptible, Medium Interruptible, and Large Interruptible customers. These customer classes are not allocated demand costs under the current cost allocation plan.

The Department recommended that the Commission allow Xcel to recover associated demand costs through the monthly Purchased Gas Adjustment effective November 1, 2015. PUC staff agrees.

Decision Alternatives

1. Approve Xcel's proposed level of demand entitlements as amended by its October 30, 2015 Supplemental Filing; and [Xcel, Department]

2. Allow Xcel to recover associated demand costs through the monthly Purchased Gas Adjustment effective November 1, 2015. [Xcel, Department]