

MEMORANDUM

TO: Rhode Island Public Utilities Commission

FROM: Bruce R. Oliver, Revilo Hill Associates, on behalf of the Division of Public Utilities and Carriers

DATE: September 24, 2014

SUBJECT: Dockets 4436 and 4520 : National Grid's Market Area Hedge Proposal

On August 28, 2014 National Grid (hereinafter "NGrid" or "the Company") filed a request with this Commission for authorization for the Company to engage in a one-time modification of its Gas Procurement Incentive Plan (GPIP) to permit its use of "market area hedges" for the upcoming winter period (i.e., November 2014 through March 2015). This memorandum presents the assessment of Revilo Hill Associates, Inc., (the Division's consultant) of National Grid's August 28, 2014 market area hedging proposal.

BACKGROUND

In February 2014, National Grid submitted a request to the Commission for approval of revised Gas Cost Recovery (GCR) rates. That request was triggered by large increases in the Company's projected deferred gas cost balance as of October 31, 2014. The increases in the Company's deferred gas costs were attributable to: (1) colder than normal weather; (2) constraints on the availability of interstate pipeline capacity to deliver required additional gas to the New England market under colder than normal weather conditions; and (3) the demands of large users¹ who had not made adequate arrangements to ensure their access to natural gas supplies during periods of colder than normal weather.

Increases in the costs of firm gas supplies during periods of colder than normal weather are generally anticipated, but the magnitudes of the increases experienced during the months of January, February and March of 2014 were unprecedented. The combination of increased gas use and increased gas costs for incremental daily gas supplies during periods of high demand greatly increased the Company's overall costs

¹ Significant portions of the large user load for which adequate arrangements for firm gas supply had not been made, included but was not limited to, the requirements of natural gas fired electric generating facilities. In addition, a number of capacity-exempt firm gas transportation service customers appear to have not made adequate arrangements for reliable natural gas supplies, and the needs of those customers for gas supplies during periods of colder than normal weather also contributed to increased market area demands for natural gas supplies.

of gas for firm sales service customers. Witness McCauley explains in his August 28, 2014 testimony:

The greatest impact to the cost of gas resulted from purchases at Texas Eastern Transmission market area M3 (Tetco M3), Transcontinental Pipeline market area Non-NY Zone 6 (Transco Non-NY Zone 6), Algonquin Gas Transmission market area Algonquin Citygate (AGT), and Tennessee Gas Pipeline market area Zone 6 (TGP Zone 6).

Prices for incremental daily gas purchases on those pipelines during the winter of 2013-14 rose to as high as \$70 to \$80 per dekatherm and for Tennessee, Algonquin, and Texas Eastern daily spot purchase costs averaged over \$20.00 per dekatherm for January 2014 and for significant parts of the months of February and March 2014.

In my March 19, 2014 memorandum to the Commission regarding NGrid's requested GCR factor revisions, I supported the Company's proposal to increase its GCR charges, but I also encouraged the Commission to seek further review of factors contributing to the significant gas cost increases that were experienced during the months of January through March of 2014. Included among the items for which additional review was encouraged were: (1) the Company's gas hedging program; and (2) other means of limiting requirements for daily spot purchases of natural gas during periods of extreme weather. This Commission's Report and Order No. 21465 issued May 15, 2014 specifically adopts those recommendations and directs National Grid to review its gas procurement practices and means of limiting ratepayer exposure to higher prices.

During the period between April 2014 and August 2014, the Division and National Grid worked cooperatively to investigate the current structure of NGrid's gas hedging program and possible approaches for reducing the Company's exposure to increased basis-related price risk for firm gas sales service customers in Rhode Island. NGrid has performed substantial additional analyses in support of that investigation of the Company's hedging program factors and methods that can be employed to reduce NGrid's dependence on daily spot purchases of gas during periods of extreme weather. It has also provided the Commission monthly updates on the progress of its investigations.

NATURE OF THE COMPANY'S REQUEST

To date, National Grid's efforts to hedge natural gas prices and provide less volatile gas costs for its Rhode Island firm sales service customers have been focused on hedging commodity prices. During the winter of 2013-2014, large portions of the increases in prices during periods of colder than normal weather were attributable to increases in basis prices that have were not hedged prior to the start of that winter period. The Company's proposal for use of market area hedges for the winter of 2014-15 represents an effort to reduce the exposure of National Grid's firm sales service

customers to unpredictable increases in the basis component of costs for gas supplies purchased in the market area.² National Grid receives deliveries of gas in the market area from four interstate pipeline companies, Tennessee, Algonquin, Texas Eastern and Transco. The Company proposes to employ market area hedges for three of those four potential sources of incremental market area gas purchases. For Tetco M3 and Transco Non-NY Zone 6, NGrid proposes hedging the maximum transportation capacity for receipt points in the market area³ for the months of January 2015, February 2015, and March 2015. No market area hedging is recommended for Tennessee Gas Pipeline (TGP) supplies. However, the Company proposes fixing the basis price on a commitment to 3,000 dekatherms per day of baseload supplies purchased at a price highly correlated to the Algonquin citygate monthly index for the months of December 2014, January 2015, and February 2015. This Algonquin basis hedge of 3,000 dekatherms per day is a portion of the maximum 18,000 dekatherms per day available to meet customer requirements during the winter season. This element of the Company's proposal essentially adds no incremental GCR costs, since NGrid intends to purchase those baseloaded volumes as part of its normal weather gas purchase costs. Yet, that baseloading of additional Algonquin supplies is expected to yield an average delivered price significantly below the average price the Company paid for spot gas purchases during the comparable months of last winter and will generate noticeable additional cost savings if colder than normal weather is experienced.

ASSESSMENT

The market area hedging activity that NGrid proposes carries with it elements of both increased costs and increased risk. Such hedges must be viewed as weather-related instruments, and the actual benefits and costs of such instruments will be directly influenced by variations in heating degree days for the months for which they apply. When weather is warmer than normal and requirements for incremental gas supply during the affected months decline, the proposed market area hedges will require National Grid to take hedged gas volumes even though lesser cost gas may be available. On the other hand, when weather during the applicable months is colder than normal, the Company will be able to purchase additional gas volumes at hedged prices (up to the daily limit of the hedge commitment), and that will reduce the Company's exposure to higher cost daily purchases of spot gas. Importantly, the upside and downside risks are not parallel, and as long as constraints on pipeline capacity for deliveries to New England exist, the Company's risk of exposure to high daily spot purchase prices during colder than normal winter periods is expected to far exceed its risk of added costs during warmer than normal weather. As demonstrated by last winter's experience, daily spot purchase prices can soar to many times the Company's average cost of gas for the month.

² NGrid witness McCauley indicates in his August 28, 2014 testimony that the market area "*can be generally described as locations in the New England states, as well as New York and New Jersey.*"

³ The transportation capacity hedged for Tetco M3 would be 13,800 dekatherms per day. The proposed hedges for Transco Non-NY Zone 6 would represent approximately 3,800 dekatherms per day.

The analyses National Grid has performed suggest that market area hedges appear most cost-effective when incremental supply requirements are expected to reflect relatively high load factor purchase activity within a given month. Yet, given that most of the incremental gas load that NGrid must serve reflects weather sensitive gas use, the Company's ability to accurately forecast daily spot purchase requirements is generally limited. Working in cooperation with the Division, National Grid has attempted to construct estimates of the costs and risks associated with the proposed market area hedges through examination of the impacts of proposed market area hedges under both normal weather and severe weather assumptions.

Witness McCauley explains that the potential savings to be derived from the specific hedges that the Company proposes far exceed the added costs that National Grid expects to incur. Although the Company's estimates of costs and savings are computed based on comparative scenarios which may or may not depict the actual costs and savings that will be experienced, the scenarios NGrid has used reasonably depict the range of costs and benefits to which firm sales service customers will be exposed.

The Company's estimates suggest that under normal weather conditions the Company's increased costs for the proposed January 2015, February 2015, and March 2015 hedges for Tetco M3 and Transco Non-NY Zone 6 supplies will cost the Company an additional \$788,000 for the coming winter. However, if weather during the winter of 2014-15 is comparable to that encountered last winter, the resulting savings in gas purchase costs would be approximately \$10.8 million. That reflects a benefit cost ratio of greater than 13:1. For the proposed basis hedge for additional baseloaded Algonquin purchases, the effective incremental costs are zero, but the potential cost savings under colder than normal weather conditions are significant.

CONCLUSION

The proposal that National Grid presents for market area hedges is reasonably designed to mitigate a portion of the Company's exposure to high daily spot purchase prices for natural gas during periods of extreme weather that may occur during the upcoming 2014-2015 winter months. It does not totally eliminate the need for daily spot purchases of gas during periods of extreme weather, but the Company's proposals have been developed in a manner that should noticeably reduce the Company's exposure to requirements for daily spot purchases of gas at prices well above its average costs of gas for the upcoming winter.

Although it is anticipated that pipeline capacity constraints will continue to limit the availability of natural gas supplies through the winter of 2015-2016, if not longer, the Company's proposal only addresses the coming winter months. This does not preclude the possibility of additional market area hedging in future years. Rather, the intent is to monitor market developments, new interstate natural gas pipeline construction activity,

and the performance of the proposed market area hedges this winter, before making recommendations regarding the use of market area hedges for future winters.

The proposed hedging program has both measureable costs and risks, and as a result approval of the Company's proposal will add directly to National Grid's projected costs of gas for the upcoming GCR year (i.e., November 1, 2014 through October 31, 2015). The added costs can be reasonably estimated at this time. The benefits are highly weather dependent and can grow significantly if colder than normal weather is encountered during the months for which market area hedges are undertaken. National Grid has chosen to pursue only those levels of hedging for each winter month and each pipeline supplier that delivers to the market area for which high benefit - cost ratios are anticipated.

Although the Company's plan to hedge the costs of market area gas purchases during specific months of the upcoming winter period is presented as a one-time modification of National Grid's current Gas Procurement Incentive Plan, it will have no impact on incentive determinations under the GPIIP or the dollar amount of incentives that the Company may earn. The daily gas purchases addressed by the proposed market area hedges are not presently addressed by the current GPIIP incentives, and therefore, they are not impacted by the proposed GPIIP modification National Grid proposes. Furthermore, National Grid has requested no additional incentives to undertake the proposed market area hedges discussed herein.

Given the foregoing, the market area hedges that National Grid has proposed should be viewed as a reasonable and prudent step to reduce (but not eliminate) the exposure of firm gas sales service customers to high cost incremental daily spot gas purchases during periods of colder than normal weather for the winter of 2014-15, and Commission approval of the Company's proposed market area hedges is encouraged.