STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DG 06-154

ENERGYNORTH NATURAL GAS INC.

Investigation Into Thermal Billing Practices

Order Approving Settlement Agreement

O R D E R N O. 24,752

May 25, 2007

APPEARANCES: Steven V. Camerino, Esq., of McLane, Graf, Raulerson, and Middleton, P.A., on behalf of EnergyNorth Natural Gas, Inc. d/b/a KeySpan Energy Delivery New England; Meredith A. Hatfield, Esq., of the Office of the Consumer Advocate, on behalf of residential utility ratepayers; and Edward N. Damon, Esq. for the Staff of the New Hampshire Public Utilities Commission.

I. PROCEDURAL HISTORY AND BACKGROUND

On October 3, 2006, Commission Staff filed a memorandum recommending that the Commission open a docket to investigate certain delivery service overcharges by EnergyNorth Natural Gas, Inc. d/b/a KeySpan Energy Delivery New England. Staff stated that the Company's change in May 2001 from the "wet" to "dry" method for measuring the heat content of gas delivered to its customers, without adjusting the per therm rate to reflect the increase in therms billed and without obtaining Commission approval, caused the Company's customers to be overcharged.

Staff explained that under thermal billing, gas companies bill customers for usage based on the heat (*i.e.*, energy) content of a metered volume of gas rather than on only the volumes measured at the customer's meter.[1] This is accomplished by multiplying the measured volume

[1] The heat content of gas is commonly expressed in British thermal units (Btu's), the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. The heat content of any given stream of gas will vary, depending on the mix of constituents in the gas, including the presence of relatively small amounts of

of gas times a thermal factor.[2] The thermal factor is typically determined using a "wet" or "dry" method. Staff stated that the "wet" method requires the gas being measured to be fully saturated with water vapor at standard temperature and pressure conditions before the measurement is taken. The "dry" method, by contrast, measures the actual heat content of the delivered gas. Staff stated that heat content measured using the "dry" method will yield materially higher values than heat content measured using the "wet" method.

Staff stated that the Company's currently effective delivery rates were determined using therm sales data based on the "wet" method and that if the "dry" method had been employed in the relevant rate proceeding, *EnergyNorth Natural Gas, Inc*, 86 NH PUC 248, Order No. 23,675 (April 5, 2001), the projected therm sales would have been greater, and the per therm delivery rate would have been lower, than that approved by the Commission. Thus, when the Company changed its method for calculating the heat content of gas from the "wet" method to the "dry" method in May 2001, without adjusting the per therm rate to reflect the increase in therms billed and without obtaining Commission approval, the Company began to bill its customers for a larger number of therms and greater dollar amounts than the Commission had contemplated or authorized, even though the Company was using the approved per therm delivery rate. Staff noted that the increase in therm sales caused by the change in measurement method would not improperly affect the Company's customer charges or its Cost of Gas (COG) rates since the

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water vapor. (Water vapor contains no heat energy and its presence in a given quantity of gas will reduce its Btu content by displacing energy-producing hydrocarbons.) For example, according to the Company, gas from eastern Canada has historically had a much higher Btu content than gas from the Gulf of Mexico.

[2] According to section I.3(B) of the Company's tariff, in order to determine the number of therms consumed by a customer in a billing period, the volume of the delivered gas, expressed in hundreds of cubic feet (CCF), is multiplied by the average Btu content of one cubic foot of the gas sendout divided by 1,000. The number of therms so derived is then multiplied by the Commission-approved per therm delivery rate to determine the amount the customer must pay for delivery service during the billing period.

customer charge is independent of therm sales and the COG rates are self adjusting to ensure that revenues match costs.[3]

On November 11, 2006, the Company submitted to Staff a report regarding its internal investigation of its thermal billing practices. Staff filed the report with the Commission on November 6, 2007 and the Commission issued an order of notice on November 14, 2006, initiating a formal investigation and scheduling a prehearing conference for December 28, 2006.

On November 22, 2006, the Office of Consumer Advocate (OCA) entered an appearance on behalf of residential ratepayers pursuant to RSA 363:28. At the prehearing conference, Staff indicated that, based on its research and the Company's discovery responses, the Company's proposal to correct the over-billing on a prospective basis by multiplying the measured average "dry" Btu value by a factor of 0.9826 to determine the equivalent "wet" value appeared to be reasonable. Staff stated that the correction factor is ultimately subject to Commission review and approval although, in its view, Commission approval in advance of implementing the correction was not required.

The OCA concurred with Staff's position regarding the proposed correction factor. The Company stated that it understood the seriousness of the issue in the docket and reiterated that it would continue to cooperate fully with Staff and the OCA. The Company explained that it was prepared to take corrective action with respect to future billings after final agreement could be reached. The Company predicted that the correction could be implemented effective with bills rendered[4] on and after February 1, 2007. Regarding the causes of the over-billing, the Company

[3] Similarly, the change in method would not improperly affect the Local Distribution Charge (LDAC) rates because those too are self adjusting.

[4] This was subsequently amended with concurrence of the Staff and OCA to implementation on a a service-rendered basis.

stated that, based on its investigation, it appeared a change was made in 2001 to discontinue one type of measuring device (*i.e.*, a "wet" measurement calorimeter) in favor of another type (*i.e.*, a "dry" measurement chromatograph) in line with broad industry standards for measuring heat content and with practices at the Company's other utility affiliates, without recognizing the rate impact of such an operational change.

Following several technical sessions and settlement discussions involving the parties and Staff in January and February 2007, the parties and Staff recommended a procedural schedule approved by the Commission on March 13, 2007. On April 4, 2007, the Company filed a settlement agreement entered into by the Company, OCA and Staff and a final report regarding the Company's internal investigation, both of which are further described below. On April 9, 2007, Staff filed its report and the hearing was held on the settlement on April 10, 2007. On April 24, 2007, the Commission issued a secretarial letter confirming the Commission's approval of the settlement granted at its April 13 meeting and the Company's authority to make the refunds to customers pursuant to the settlement in May in advance of a final, formal written order from the Commission.

II. SUMMARY OF THE SETTLEMENT AGREEMENT

The settlement recounted that on June 20, 2006, Staff issued data requests to the Company regarding thermal billing and Form E-6[5] reporting, to which the Company responded. After Staff issued a second set of data requests, the Company undertook its internal investigation. (Ultimately, the Company responded to six sets of data requests issued by Staff and one set from the OCA, and answered numerous questions at technical sessions.) In addition, Staff visited certain of the Company's facilities to inspect its chromatographs. The settlement noted that the

[5] Regulated gas utilities file Form E-6 with the Commission on a monthly basis to report the daily average heating value of gas furnished to the public.

method for prospectively correcting the over-billing agreed to by the parties and Staff was implemented on a service rendered basis effective February 1, 2007.

The parties and Staff agreed that the settlement properly reflects and balances the nature and magnitude of the matters at issue and the Company's cooperation in responding to Staff's inquiries. In light of the Company's active assistance in resolving the issues and its willingness to make the financial restitutions and contributions set forth in the agreement, Staff and the OCA agreed that no civil money penalty or other additional assessment should be ordered beyond the agreed-upon amounts. The Company agreed that no portion of any amount payable by the Company under the settlement or any attorneys fees or other costs incurred in connection with the thermal billing investigation and the settlement shall be considered by the Commission in fixing the rates or charges of the Company.

The Parties and Staff recommended that the Company:

- Refund a total of $ 3,076,708, intended to include any over-billing and carrying costs, as a one time credit to customers' bills during the May 2007 billing period. The amount of each customer's credit would be based on the usage of each current customer (*i.e.*, customers of record as of March 31, 2007) during the period April 2006-March 2007. In the event of a variance between the amount of the agreed-upon refund and the total amount refunded, the difference would be reflected as a refund or surcharge in the Company's 2007-2008 winter season LDAC filing.

- Notify customers in writing of the credit to their bills and the reason therefore in a manner to be agreed upon by the parties and Staff.

- Increase its low income energy efficiency budget, as approved by the Commission in Order No. 24,636 in docket DG 06-032, by $200,000. This additional amount could be spent by the Company at any time during the 2007-2008 and 2008-2009 program years so long as the expenditures were consistent with the energy efficiency program

guidelines approved by the Commission or they are used in collaboration with the community action agencies and the federal weatherization program to provide additional energy efficiency measures and services to gas customers. The Company agreed to exclude this $200,000 increase from any cost recovery filings related to its energy efficiency program expenditures.

- Be authorized to amend its tariff by replacing the second paragraph of Section I.3(B) on Original Page 8 with the following:

  Determination of Therms. The gas for any billing period, expressed in hundreds of cubic feet (ccf), shall be multiplied by the gas Btu sendout therm factor as determined below and divided by 1,000 in order to determine the number of therms consumed in the billing period. For billing purposes gas therms shall be determined on a fully saturated or "wet" basis.

  The Btu therm factor of the gas sendout shall be calculated for each billing cycle from the daily weighted average Btu of the natural gas delivered to the Company by its suppliers and the gas produced at the Company's peak-shaving plants. The daily average Btu content shall be determined by appropriate gas measurement devices operated by the Company. In the event that the gas measurement devices operated by the Company measure the gas on a "dry" basis the Company shall convert the measurement to a fully saturated basis by multiplying the recorded gas measurement by 0.9826 for billing purposes.

- Maintain the following records related to Btu measurement equipment:

  - the operations and maintenance manual for each piece of equipment, which shall be kept at the location of the equipment;

  - identification of the manufacturer and vendor of each piece of gas measurement equipment;

  - a record of when the equipment was purchased and installed, under whose authorization and at what cost;

  - a log sheet of servicing of the equipment, including a short description of the work performed and the name of the company and title and name of the person responsible for performing the work;

  - a log sheet of when test gas bottles are changed out; and

  - a written procedure that describes the output Btu value data of the equipment and how the data is transferred to the Supervisory Control and Data

Acquisition (SCADA) system and gas control and billing departments, together with a written procedure that describes the computation of the weighted average thermal factor for New Hampshire.

- These records will be maintained for a minimum of seven years after such equipment is removed from service unless a different period is required by law or regulation.

- Perform reporting to the Commission as follows:

  - Monthly Btu reporting to the Commission will done be on a modified E-6 report form specific to the Company and will report daily Btu values for (i) pipeline supply based on the supplier owned chromatograph at Dracut, MA, (ii) LNG production from Company owned chromatographs at Manchester, Concord and Tilton, (iii) propane production based on Company owned Ranarex gravitometers at Nashua, Manchester and Tilton, and (iv) gas delivered to AES Granite Ridge at the Londonderry take station. The modified E-6 report will include check-boxes to indicate when peakshaving activity has occurred at any Company peakshaving facility and will indicate the thermal factor to be input into the Company's billing system and will be consistent with the Company's written procedure referred to above.

  - The Parties and Staff will meet after the conclusion of the 2007-2008 Winter Season to review the E-6 reporting process set forth above to determine whether any changes should be made for purposes of determining the thermal factor in the future.

Finally, the parties and Staff agreed that the Company's acceptance of the settlement is (1) among other things, to provide restitution to the Company's customers on a reasonable basis after due consideration of all the circumstances and (2) conditioned on the Commission's determination that, to the fullest extent allowed by law, any order approving this agreement would be in full satisfaction and in lieu of any claim for restitution that could have been or can otherwise be sought by any past or present customer of the Company relating to the matters at issue in this proceeding, including but not limited to any claim pursuant to RSA 365:29 (concerning orders for reparations).

III. POSITIONS OF THE PARTIES AND STAFF

A. KeySpan Energy Delivery New England

The Company's final report stated that when measured volumetrically, a fully saturated cubic foot of gas, at standard conditions, contains 0.9826 cubic feet of gas and 0.174 cubic feet of water vapor. Thus, a cubic foot of gas measured on a "wet" basis will have a heat content of 98.26 % of the same volume of gas measured on a "dry" basis. As a result, when the Company discontinued using the "wet" method and began using the "dry" method, it began reporting usage for billing purposes that was 1.74 % more than if the same volume of gas were reported based on the "wet" method.

The Company's investigation was conducted by its senior counsel, Thomas P. O'Neill. He reviewed the following records: available gas control records related to gas measurement equipment at the Company's production facilities in New Hampshire, gas supply integration team notes from the KeySpan Corporation/EnergyNorth merger, revenue neutral rate redesign backup on billing determinants, Form E-6 reports, gas control records related to the Btu content of gas received from the Tennessee Gas Pipeline Company at Dracut, Massachusetts, and bills for an individual customer for calendar years 1999, 2000, and 2001. Based on this review and interviews with Company personnel, the Company was able to satisfy itself that the thermal factors had been based on the "wet" method through May 24, 2001.

According to the final report, in attempting to explain the change, Jon Hedman, gas control manager for New England,[6] initially believed that it was related to the integration of three SCADA systems operated by the Company and two of its Massachusetts utility affiliates into a common SCADA platform. However, because he was unable to confirm this belief, he

[6] As gas control manager, he is responsible for gas measurement, quality and pressures.

continued to search Company records for additional information. Mr. Hedman located an email establishing that Company personnel were aware as early as September 2000 that there was a difference in how the thermal factor was reported for the Company and its Massachusetts utility affiliates. In addition, he located gas control records from 2001 that unequivocally confirmed that until May 24, 2001 the output from the SCADA system reported the thermal factor on a "wet" basis for the Company and thereafter the thermal factor was reported on a "dry" basis. These records included a report for the May 23, 2001 gas day with a handwritten instruction to eliminate the adjustment that converted the thermal factor from a "dry" to "wet" basis.

In pursuing this discovery, Mr. O'Neill contacted the individuals identified in the September 2000 email. However, none of these individuals could recall any follow-up action or responsive emails. Mr. O'Neill then interviewed Mr. Hedman, who stated that although the instruction on the May 23, 2001 gas day report appeared to be in his handwriting, he had no recollection of providing the instruction to any of his subordinates. He further stated that he would not have directed such a change without being instructed to do so. Mr. O'Neill therefore contacted Mr. Hedman's two most direct supervisors in 2001, William Wallace and William Luthern, both of whom are now retired. Both indicated that they had no recollection of the issue nor did they have any documentation relevant to the investigation. Finally, Mr. O'Neill interviewed the gas control supervisors who reported to Mr. Hedman in 2001 and learned that none of them recalled making a change to the Company's SCADA output reports or being directed to do so by anyone else.

The Company concluded that, beginning on May 25, 2001, it began reporting the thermal factor on a "dry" basis without making a corresponding change in its billing system to reflect the change. As a result, the therms reported on customers' bills were 1.74 percent higher for the

same volume of gas than when the Company's rates were established. The Company reported that it has been unable to determine why the change occurred nor has it found any evidence that the change was implemented as a result of any wrongdoing by an individual. Finally, the Company stated that there is no indication that any person involved was aware that the change in how the thermal factors were reported for billing purposes might require regulatory review.

The final report included a revised calculation of the over-billing, which demonstrated that the amount of the over-billing from May 25, 2001 through January 31, 2007 was $2,265,267. With interest at the Company's prime rate, the total came to $2,678,476. The revised calculation took into account the incremental volumetric rates (*i.e.*, the head and tail block rates) for each rate class. According to the Company, the revised calculation is more accurate than the one presented by the Company in its initial report.

At hearing, Company witnesses Jon Hedman and Ann Leary, rates manager for New England, affirmed the Company's final report and provided additional detail. For example, Mr. Hedman distinguished between measuring and reporting Btu values on a "wet" and "dry" basis. Chromatographs currently in use only measure on a "dry" basis but the measurement can be reported on the equivalent "wet" basis by making a conversion. Just before the method was changed in May 2001, the Company made the conversion by subtracting 18 Btu's from the "dry" measurement in order to arrive at the equivalent "wet" value reported to the customer accounting division for billing purposes and on Form E-6. Mr. Hedman indicated that the subtraction of 18 Btu's was an industry "rule of thumb" that provided a good approximation of the equivalent "wet" value, especially in the days when the Btu content of the gas varied in a relatively narrow range between 1,000 and 1,020 Btu's per cubic foot.[7] According to Mr. Hedman, adjusting the

[7] He testified that more recently the heat content of gas has been found to vary over a significantly wider range, from about 998 Btu's to 1093 Btu's per cubic foot.

"dry" value by the 0.986 factor as agreed to by the parties and Staff provides a more precise number and is generally accepted in the industry as an accurate way of making the conversion.

Mr. Hedman explained the Company's therm billing records for May 23, 24, and 25, 2001 (Exhibit 4). *See* transcript of April 10, 2007 Hearing (Tr.) at 17 *et seq*. On a sheet entitled, "Therm Billing for New Hampshire Division for Gas Day of 5/23/01,"[8] the calculated weighted Btu value is 1,050 but the final, reported value is 1,032. A note explains the variance: "[t]his Btu is being shown as a wet Btu." Also appearing on the sheet is a handwritten notation, "remove – 18". The corresponding sheet for the May 24 gas day shows that the conversion was made the same way, but the sheet for the May 25 gas day shows that the change in the reporting method had been accomplished. For the first time, the calculated and reported Btu values are the same (*i.e.*, "dry" Btu values) and there is no note about a variance.

Mr. Hedman said that the handwritten notation to "remove – 18" appears to be his handwriting and he would have been involved in ordering the change if it was done in his department. He does not remember writing it, however. In addition, he is certain that a change of this significance would have been directed by his supervisor, William Wallace, although he does not specifically recall it. Tr. at 21, 33, 45-46. Mr. Hedman indicated that, as far as he knew, the Company had not uncovered any information about why the change was made or who told him to make it, nor was the change made for the personal gain of any individual or the Company as a whole. Tr. at 21-22.

In response to questions from the OCA and Staff, Mr. Hedman stated that the change would have been implemented by a minor change to the SCADA program, eliminating the subtraction of 18 Btu's from the equation applicable to the Company. He also said that the

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[8] The Company's "gas day" extends into the next calendar day and the calculations on the sheet are done at the end of the gas day. Thus, the sheet is dated May 24, 2001.

change would have been communicated to the supervisory employees working for him. He stated that he was "not exactly sure" how the change would affect customer billing, *see* tr. at 34, although he later clarified that he knew the thermal factor was relevant to customers' bills. However, he said he did not know whether other changes might have been made by others that would have offset the change he made (for example, if the Company had come to the Commission and had its rates reset, the change would have had no bill impact). Tr. at 47-48.

In part, section 5 of the settlement requires the Company to develop a written procedure that describes the Company's computation of the weighted average thermal factor for billing purposes. In addition, to allow Staff to analyze the impacts of possible timing differences between the readings from the various measurement locations on the Company's system, monthly Btu reporting to the Commission will be accomplished by means of a modified Form E-6 report that contains daily Btu values for pipeline supply, LNG and propane peak shaving production, and gas delivered to AES Granite Ridge.[9] The modified E-6 reports will be similar to the current reports but will provide Staff with additional information regarding the Company's peak shaving activity as well as the Tennessee Gas Pipeline Btu values at the AES Granite Ridge location. Mr. Hedman explained that the Form E-6 reporting process describes what the Company does now and that its calculations of daily weighted average Btu values are based on a continuous accumulation of data during the entire day from the Company's chromatographs.

Ms. Leary testified that the method of calculating the amount of the over-billing set forth in the final report is the best estimate of the correct amount. She said that if the Company had updated the method of calculating the over-billing in the initial report and applied interest at the prime rate, the amount is similar to the amount the Company is agreeing to refund under the

[9] At the conclusion of the 2007-2008 Winter COG Season, the parties and Staff will review the results to determine whether changes should be made for purposes of determining a thermal factor going forward.

settlement. It is also substantially more than the base amount of the over-billing. To preclude multiple claims for restitution based on the issues in this docket, the Company insisted as a condition of the settlement that the Commission, to the fullest extent of its authority, prohibit such claims. Ms. Leary stated that an average residential customer could expect to receive a refund in the amount of approximately $35 under the settlement.

In its closing statement, the Company reiterated that it takes the matter of the over-billing very seriously, recognizing that the trust of the Company's regulators and its customers and their ability to rely on the integrity of the Company is of the utmost importance. Over-billing is unlike matters of policy, about which the parties and Staff have and will continue to disagree from time to time, and when the Company finds out that it has done something that it should not have done, the Company said it has tried to make clear that it will come forward, own up to the problem and make customers whole.

The Company recognized that the change in May 2001 affected customers' bills and admitted that the change was not made through inadvertence, but asserted that the primary problem was that no one at the Company identified the change as needing regulatory approval. According to the Company, its investigation uncovered no indication of malfeasance in the sense of dishonesty or bad intent. The Company supports the settlement as being in the public interest for a number of reasons: the total amount of restitution, however one chooses to justify it, is very substantial and significantly more than the $2.3 million base amount of over-billings; the settlement sends a message that cooperation with regulators is welcomed and expected in the future; and it would not be in the public interest for the Company to be subject to multiple claims for the same amounts over and over again. In conclusion, the Company stated it did not wish to

make any excuses but rather to reiterate that it has been open, forthright and cooperative in the investigation.

B. Office of Consumer Advocate

Assistant Consumer Advocate Kenneth Traum testified that the OCA wished to recognize Robert Wyatt of the Staff for initially uncovering the over-billing, the Staff for pressing the issue and the Company for its cooperation. The OCA supported the settlement because, assuming approval, interest at the Company's cost of capital at 9.83 percent would be added to the over-billing amount, approximately $2.3 million, for a total refund of approximately $3.1 million, the Company would be be contributing an additional $200,000 for expanded low income energy efficiency programs to be conducted in cooperation with the Office of Energy and Planning (OEP) and the community action agencies over the next two years, a bill stuffer would inform customers about the reasons for the refund, and the settlement provides a means of distributing the refunds as effectively as possible while minimizing administrative costs. Based on discussions with the Company, OEP and the community action agencies, the OCA is satisfied that the Company's contribution to the low income energy efficiency programs, while representing a large percentage increase to these programs,[10] nevertheless can be spent cost effectively. In closing, the OCA stated that although a thorough investigation was undertaken, the OCA was not aware of any evidence of malfeasance on the Company's part.

C. Staff

In Staff's report to the Commission filed on April 9, 2007, Staff explained how the change in method was discovered by Utility Analyst Robert Wyatt. Notwithstanding other

[10] In response to questions about the Company's low income energy efficiency program, the Company revealed that its overall budget for the 2007-2008 energy efficiency program is $1,627,500, of which approximately $400,000 relates to low income programs.

factors, such as the higher heat content of natural gas supply introduced into New England from the Canadian Maritimes in 2000, a comparison of the heat content of gas reported monthly by Northern Utilities, Inc. (Northern), the Company and Tennessee Gas Pipeline indicated that the Company may have changed how it calculated the heat content. According to Staff, Northern and Tennessee Gas Pipeline used the same method for measuring heat content, which differed from that used by the Company and resulted in a 1.74 percent differential in the reported heat content. That differential, reflected in the monthly E-6 reports filed with the Commission by Northern and the Company, disappeared in June 2001, approximately seven months after KeySpan acquired the Company. Staff then issued the Company and the other gas utilities a series of thermal billing data requests which led to the Company's internal investigation and the opening of this docket.

Staff recommended that the Commission approve the settlement because it reasonably and fairly reimburses ratepayers for the over-billed amount and carrying costs and strikes a fair balance between penalizing the Company for its actions that resulted in the over-billings while recognizing the Company's full cooperation in the investigation and resolution of the matter. Staff stated that the Company cooperated with Staff by responding to numerous data requests, participating in technical sessions and sharing the results of its own internal investigation. During the course of the proceeding, the Company located the documents demonstrating that the change in method was not inadvertent, but reflected an action by Company personnel, and brought them to Staff's attention. Staff commended such candor.

In Staff's view, however, the change in method that resulted in over-billing customers was a serious breach of the trust placed on public utilities to report usage accurately, charging customers only for services actually provided. Staff stated that while the investigation was

unable to determine who authorized the change or the reason for the change, the Company should have known the implications of making such a change, notified the Commission and sought Commission approval to ensure that the change would be revenue neutral.

The timing of the change also troubled Staff: as part of the integration process undertaken when KeySpan Corporation acquired the Company, KeySpan understood that the Company's method of measuring the heat content differed from that used by the other KeySpan utilities and continued to correctly calculate the heat content for the Company through the transition process and beyond. It was not until May 25, 2001, shortly after new delivery rates had been approved by the Commission in the Company's revenue neutral rate redesign docket, *see* Order No. 23,675, *supra,* that the change was implemented.

According to Staff, the settlement recognizes the seriousness of the actions that led to the over-billing by requiring the Company not only to refund the amount of the over-billing with carrying costs but also to make $200,000 in contributions to the low-income energy efficiency program.

Staff noted that the Company filed an updated report with the settlement that determined an over-billing of $2,265,267 for the period May 25, 2001 through January 31, 2007, less than the $2,505,824 over-billing calculated in the Company's initial report. The Company's initial report applied an average head block/tail block rate to the over-billed therms, whereas the final report takes into account which blocks (head or tail) the additional therms were billed and charges the applicable rate. In Staff's view, the lower amount calculated in the updated report more accurately reflects the over-billing than the calculation included in the initial report, as the additional therms made up a higher than average percentage of the tail block usage.

Staff noted that the carrying costs in both Company reports were calculated using the applicable prime interest rate. For settlement purposes, the Company agreed to calculate the carrying costs by applying an interest rate of 9.83 percent. Staff said that although the over-billing most likely did not result in carrying costs for the majority of customers, the agreed upon interest rate is substantially higher than the prime interest rates and a better approximation of the rate ratepayers might be expected to incur.

Staff stated that the over-billing and carrying costs have been calculated for each year for customer classes with similar load profiles, and then each customer's refund is determined based on their annual usage from April 2006 through March 2007. According to Staff, by treating customer classes separately according to load characteristics and determining the over-billing for each year, the calculation ensures that each class is appropriately refunded overbilled amounts based on the actual weather and usage for the period.

Staff concurred with the Company and OCA that, given the amount of the anticipated refunds, the administrative cost to identify and refund more specific amounts is not justified. Staff explained that even if the Company were able to identify the customers who left the system during the period of over-billing, the administrative hurdles of determining the refund due those customers and then locating and mailing them the refund would be extremely difficult, if not impossible, to overcome. Depending on when a residential heating customer left the system, the refund would be less than the $35 average expected refund, and much less in many instances. Customers that began service during the over-billing period and have been on the system for the entire year on which individual refunds will be determined will receive a full refund as if they had been on the system for the entire period. However, customers that have been on the system for less than a year will receive a reduced refund based on their usage for the year.

Staff recommended that the Commission approve the proposed settlement because the agreement reasonably and fairly reimburses ratepayers for the amount over-billed and potential carrying costs and strikes a fair balance between penalizing the Company for its actions while recognizing the Company's full cooperation in the investigation and resolution of the matter.

At hearing, Staff witness Stephen P. Frink added that the settlement requires full restitution for the over-billed amount and an additional payment, approximately $600,000 more than the amount of restitution that customers would traditionally receive, that reflects the seriousness of the situation. According to Staff, benefits to customers from the settlement include certainty; receipt by customers of greater than full restitution instead of the State's receipt of a civil money penalty; and a substantial contribution to the low-income energy efficiency program benefiting customers most in need. Staff also noted that Audit Staff had reviewed the calculation of the refund and the Company corrected the one small error found.

Staff witness Wyatt confirmed Staff's concurrence with the use the 0.9826 correction factor and described the Staff's site visit to the Company's five operations facilities where the gas chromatographs, Chandler 2920 gas analyzers, are located. On its March 16 site visit, Staff found all five chromatographs, which are self calibrating on a daily basis, to be operational and found operations manuals and documentation at each facility. According to Staff, the Company uses measurements from the five chromatographs when it is operating its peak shaving facilities; when they are not in operation, the Btu measurement is taken from Tennessee Gas Pipeline's equipment at Dracut. Staff's concern with the possibility of a lag between the measurement of gas flowing from Dracut and the gas at the Company's New Hampshire measurement locations will be addressed with the study of the additional information to be provided by the Company over the next year.

In closing, Staff stated that it had conducted a thorough investigation of the over-billing and fully supported the settlement. Staff stated that it had not turned up evidence of malfeasance, particularly on the part of any one individual. Considering the circumstances as a whole, Staff reiterated the statement in its report that while the investigation was unable to determine who authorized the change or the reason for the change, the Company should have known the implications of making such a change, notified the Commission and sought Commission approval to ensure that the change would be revenue neutral.

IV. COMMISSION ANALYSIS

N.H. Code Admin. Rules Puc 203.20(b) provides that the Commission will approve of resolving any contested case by settlement if the Commission determines that "the result is just and reasonable and serves the public interest." For the reasons set forth below, we find that the settlement satisfies these standards and we therefore approve it.

There is no doubt that the Company over-billed its customers for distribution service beginning on May 25, 2001, (when it ceased making any correction to the measured "dry" Btu value for billing purposes), through January 31, 2007, (when it resumed making the correction by applying a correction factor of 0.9826 to the measured "dry" Btu value). Indeed, at an early date in the Staff's investigation the Company admitted that the over-billing had occurred and pledged its cooperation. The Company's approved per therm delivery rates are predicated upon the use of "wet" therms. *See* Order No. 23,675, *supra.* Of course, the Company may not directly increase its tariffed per therm rates without notice to the Commission. It was equally improper for the Company to effectuate a price increase indirectly by changing the method for calculating thermal usage in a manner inconsistent with the basis on which the per therm delivery rates had been approved the month before.

During the investigation, the parties and Staff explored at length the total amount of the over-billing and the causes thereof. In its first report filed on November 6, 2007, the Company calculated the over-billing to be $2,505,824 by applying an average head block/tail block rate to the over-billed therms for the period covered by the calculation. In its final, updated report, the Company calculated the total amount to be $2,265,267 for the period May 25, 2001 through January 31, 2007, several months longer than the period reflected in the first report. Staff and OCA endorse the revised calculation as a more accurate way of calculating the actual amount of the over-billing than the calculation included in the initial report. In addition, the parties and Staff agree that the 0.9826 correction factor used in the over-billing calculation (and in eliminating the over-billing effective February 1, 2007) is appropriate. The settlement provides a total refund of $3,076,708 to customers, which includes the total $2,265,267 over-billing amount and $811,441 in carrying charges computed at the Company's cost of capital, 9.83 percent. This interest rate favors customers, being significantly higher than the prime interest rates in effect during the over-billing period applied to over and under collections of gas costs.[11] Thus, the settlement fully and fairly compensates customers for the direct effects of the Company's over-billing.

The causes and circumstances of the over-billing are important factors to consider in evaluating whether the settlement as a whole, including the $200,000 contribution to the low-income energy efficiency program, is adequate. At hearing, the parties and Staff were asked to address whether the over-billing arose from misfeasance, i.e. mistake or malfeasance, i. e., bad intent. The OCA stated it was not aware of evidence of malfeasance on the Company's part. Staff stated that it had not found evidence of malfeasance, particularly on the part of any one

[11] As reflected in Attachment 1 to the Company's final report, the prime interest rate has varied over the course of the overbilling period from a low of 4 percent to a high of 8.5 percent.

individual. Staff reiterated that while the investigation was unable to determine who authorized the change or the reason for the change, the Company should have known the implications of making such a change, notified the Commission and sought Commission approval to ensure that the change would be revenue neutral. In Staff's view, then, the evidence demonstrated a case of misfeasance. Finally, the Company stated that its investigation uncovered no indication of malfeasance in the sense of dishonesty or bad intent.

These opinions are consistent with our own evaluation of the evidence in the record. The evidence showed that the change from reporting the Btu values on a "wet" basis to a "dry" basis was the result of an active decision by an employee of the Company. The evidence, however, does not demonstrate that the action was taken in knowing disregard of the Commission's order, Order No. 23,675 (April 5, 2001), *supra*, approving a revenue neutral rate redesign. On the other hand, the evidence would support a finding that the Company made the change in May 2001 without exercising the level of care in complying with the Commission's requirements that we expect of utility management. It is also true that upon becoming aware of the possibility of the over-billing in 2006 as a result of Staff's data requests, the Company immediately launched its own investigation and cooperated fully with Staff's investigation. Because the evidence does not demonstrate grounds for finding that the Company acted with bad intent, imposition of harsher remedies than those set forth in the settlement are not required. The Company remains accountable for the effects of its actions and the settlement, which includes full compensation to customers and a significant increase in the low-income energy efficiency program,[12] reasonably achieves such accountability.

[12] We also note that the settlement expressly precludes the Company from passing the costs of the investigation and settlement, including but not limited to the low-income program contributions, back to customers.

We deem the mechanism established in the settlement for determining each customer's share of the over-billed amount to be appropriate in the circumstances. To qualify for a refund, the customer must be a current customer, *i.e.*, a customer of record as of March 31, 2007, that took service during the over-billing period. The amount of the refund is based on the customer's usage during the immediately preceding 12-month period. As Staff noted, customers that have been on the system for the entire year will receive a full refund as if they had been on the system for the entire period while customers that have been on the system for less than a year will receive a prorated refund based on their usage for the year.

We agree with Staff and OCA that, given the amount of the anticipated refunds, estimated to be approximately $35 for an average residential customer, the administrative cost of identifying and refunding an amount that precisely reflects the actual amount that each customer was over-billed is not justified. Even if the Company succeeded in identifying all the customers that left the system during the period of over-billing, the administrative effort involved in determining the exact refund due those customers and then locating and mailing them the refund would be enormous, wholly out of proportion to the size of the per customer refund.

The parties and Staff agreed that our adoption of the settlement terms would include a determination by the Commission that, to the fullest extent allowed by law, approval of the settlement is in full satisfaction and in lieu of any claim for restitution that could have been or can otherwise be sought by any past or present customer of the Company relating to the matters at issue in this proceeding, including but not limited to any claim pursuant to RSA 365:29. Although no customer brought a complaint for reparations against the Company under RSA 365:29, the settlement provides for similar relief to customers in order to make them whole for

the over-billing. We find that it is reasonable, to the fullest extent allowed by law, for us to afford the Company protection from claims for the same cause, as provided in the settlement.

Under the terms of the settlement, the Company and the Staff will be reviewing during the coming year whether the Company's method for measuring and calculating the average ("dry") Btu values of the gas entering, or produced within, the Company's distribution system reasonably reflects the heat content of the gas being consumed by the Company's customers. This is an important consumer protection feature of the settlement and we request Staff to file with us its assessment after Staff and the Company meet at the conclusion of the 2007-2008 winter season to review the E-6 reporting process to determine whether any changes should be made for purposes of determining the thermal factor in the future.

We will also direct the Company to file with the Commission a properly annotated tariff page revision to section I.3(B) in accordance with the settlement. In addition, we direct the Company to inform Staff of its implementation of the customer credits and the contributions called for in the settlement and to provide Staff with a copy of the written procedures to be maintained pursuant to the settlement that describe the computation of the weighted average thermal factor for New Hampshire for billing purposes.

In closing, we commend Staff, and particularly Mr. Wyatt, for discovering this highly technical but important change in the Company's billing method. His attentiveness, and Staff's persistence, along with that of the Consumer Advocate, in investigating this incident and crafting a settlement that benefits all customers represents the highest ideals of public service.

Based upon the foregoing, it is hereby

ORDERED, that the terms of the settlement agreement are adopted; and it is

FURTHER ORDERED, that the Company file with the Commission a properly annotated tariff page revision to section I.3(B) in accordance with the settlement agreement, within 10 days of the date of this Order, as required by N.H. Code Admin. Rules Puc 1603; and it is

FURTHER ORDERED, that the Company (1) inform Staff of its implementation of the customer credits and the contributions called for in the settlement agreement and (2) provide Staff with a copy of the written procedures to be maintained pursuant to the settlement agreement that describe the computation of the weighted average thermal factor for New Hampshire for billing purposes.

By order of the Public Utilities Commission of New Hampshire this twenty-fifth day of May, 2007.

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

Attested by:

Debra A. Howland
Executive Director & Secretary