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May 17, 2013

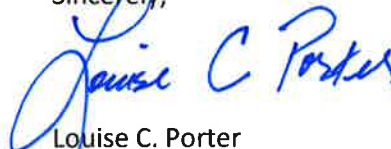
Mrs. Susan M. Hudson, Clerk
Vermont Public Service Board
112 State Street
Montpelier, Vermont 05620

Re: Docket 7970 -VGS System Expansion

Dear Mrs. Hudson:

Attached for filing with the Public Service Board are the Second Set of Information Requests served on Vermont Gas Systems, Inc. in the above-referenced matter.

Sincerely,



Louise C. Porter
Special Counsel

cc: Service List



PSB Docket Nos. 7970 - SERVICE LIST

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**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Docket No. 7970

Petition of Vermont Gas Systems, Inc. for a certificate of public good, pursuant to 30 V.S.A. § 248, authorizing the construction of the "Addison Natural Gas Project" consisting of approximately 43 miles of new natural gas transmission pipeline in Chittenden and Addison Counties, approximately 5 miles of new distribution mainlines in Addison County, together with three new gate stations in Williston, New Haven and Middlebury, Vermont

**SECOND SET OF INFORMATION REQUESTS
SERVED UPON PETITIONER
BY THE PUBLIC SERVICE DEPARTMENT**

The Public Service Department (the "Department" or "PSD") by: Louise Porter and Timothy M. Duggan, Special Counsels, hereby serves the following Second Set of Information Requests upon the Petitioner in this matter in accordance with Public Service Board Rule 2.214 and V.R.C.P. 33 and 34, and requests that Petitioner answers the requests in accordance with V.R.C.P. 33 and 34 and deliver its answers and all requested documents and materials to the Department's offices in Montpelier not later than **May 30, 2013**. Petitioner is requested to provide three complete copies of all documents. Petitioner is also requested to provide a copy of its answers in electronic format, that is, Word or other format readable by the Department, and to provide any spreadsheets in electronic format.

INSTRUCTIONS

1. Reproduce the request being responded to before the response per V.R.C.P. 33.
2. Responses to any and all Department requests that are contained herein or that may be filed later should be supplied to the Department as soon as they become available to Petitioner. That is, Petitioner should not hold answers to any requests for which they have responsive data, documents, etc. until responses to any or all other requests are compiled.

3. V.R.C.P. 33 requires the response to each request to be made under oath by a person competent to testify concerning the response and all documents and exhibits produced as part of the response. With respect to each request, please state (1) the name(s) and title(s) of the person or persons responsible for preparing the response; and (2) the administrative unit which maintains the records being produced or maintains the data from which the answer was prepared; and (3) the date on which each question was answered.
4. Where information requested is not available in the precise form described in the question or is not available for all years (or other periods or classifications) indicated in a series of years (or other periods or classifications), please provide all information with respect to the subject matter of the question that can be identified in Petitioner's workpapers and files or that is otherwise available.
5. These requests shall be deemed continuing and must be supplemented in accordance with V.R.C.P. 26(e). Petitioner is directed to change, supplement and correct its answers to conform to all information as it becomes available to Petitioner, including the substitution of actual data for estimated data. Responses to requests for information covering a period not entirely in the past (or for which complete actual data are not yet available) should include all actual data available at that time and supplementary data as it becomes available.
6. Wherever responses include estimated information, include an explanation (or reference to a previous explanation) of the methods and calculations used to derive the estimates.
7. Some of the Department's requests may make particular reference to a portion of Petitioner's filing. Notwithstanding this specific direction, these items should be understood to seek discovery of all information available to Petitioner that is responsive to the questions stated.
8. "Identify," when used in connection with natural person(s) or legal entities, shall mean the full name and current business address of the person or entity.
9. "Document," as used herein, shall be construed as broadly as possible to include any and all means and media by which information can be recorded, transmitted, stored, retrieved or memorialized in any form, and shall also include all drafts, versions or copies which differ in any respect from the original. All spreadsheets provided must have all formulae intact and accessible.
10. "Petition," as used herein, means Petitioners' petition filed with the Vermont Public Service Board in this docket, unless the context indicates otherwise.
11. With respect to each document produced by Petitioner, identify the person who prepared the document and the date on which the document was prepared.

12. If any interrogatory or request requires a response that Petitioner believes to be privileged, please state the complete legal and factual basis for the claim of privilege, provide the information required by the 5/16/95 order in Docket No. 5771 and respond to the parts of the interrogatory or request as to which no privilege is asserted.
13. If any interrogatory or request is objected to in whole or in part, please describe the complete legal and factual basis for the objection, and respond to all parts of the interrogatory or request to the extent it is not objected to. If an objection is interposed as to any requested documents, please identify the document by author, title, date and recipient(s), and generally describe the nature and subject-matter of the document as well as the complete legal and factual basis for the objection.
14. To expedite the discovery process and the resolution of this docket, Petitioner should contact the Department as soon as possible, and prior to the above deadline for response, if it seeks clarification on any of these information requests.
15. The Department reserves the right to submit additional information requests to Petitioner.

INTERROGATORIES AND REQUESTS TO PRODUCE

1. In pre-filed testimony, Mr. Gilbert describes the benefits of natural gas related to implementation of natural gas vehicles (NGVs). Pre-filed Testimony of A. Donald Gilbert at p. 6 lns. 1-5. Please describe the amount of heavy duty vehicles estimated to be fueled by natural gas currently (in terms of number and Bcf utilized), and provide an estimate of the amount of NGVs expected if the Addison County Expansion is approved.
2. How does VGS plan to address challenges in the NGV market (including but not limited to incremental cost and associated fueling infrastructure). Does VGS plan to develop NGV efficiency programs?
3. In pre-filed testimony, Mr. Lyons notes that “new customers enjoy access to our energy efficiency programs and have demonstrated strong participation in the programs.” Pre-filed Testimony of Timothy S. Lyons at p. 9 ln. 17. Please provide the participation levels of customers in VGS’s comprehensive residential retrofit program, and other energy

efficiency programs for new customers. Please describe any efforts to increase this participation rate for new customers along the Addison County Expansion route, or for existing customers.

4. In pre-filed testimony, Mr. Lyons mentions bio-methane initiatives. Pre-filed Testimony of Timothy S. Lyons at p. 6 ln. 21. Please describe how VGS expects known bio-methane initiatives in Addison County to affect your system.
5. Please provide a forecast of the amount of bio-methane that may be available in Addison County.
6. Please describe VGS's understanding of the potential benefits and/or drawbacks of bio-methane. Does VGS perceive any risks to its system of incorporating this fuel into its delivery services?
7. Do you agree that the benefits of the proposed expansion project, as described in Mr. Carr's testimony, exhibits, and discovery responses, and Ms. Simollardes and Mr. Gilbert's testimony, were calculated using natural gas and other fuel price forecasts contained in the Energy Information Administration's Annual Energy Outlook 2012? The 2013 version has now been released. Please recalculate the benefits of the proposed Addison Expansion Project using natural gas and other fuel price forecasts contained in the Energy Information Administration's Annual Energy Outlook 2013, available at [http://www.eia.gov/forecasts/aeo/pdf/0383\(2013\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf). Please provide all workpapers and backup documentation used in the recalculation.
8. Mr. Carr's testimony, exhibits, and interrogatory responses describe calculated benefits of the proposed project. Please describe the direct and indirect benefits of the project in terms

of *net* benefits, including all direct and indirect benefits and costs associated with the project. Please provide any and all workpapers and other documentation related to the calculation of Vermont economic direct and indirect benefits, including estimates of job impacts.

9. Please describe the extent to which expected national or regional carbon or other regulations, if any, are included in the calculation of forecasted natural gas and other fuel prices used to estimate benefits of the proposed project.
10. VGS's response to PSD:VGS 1-44 refers to the property taxes paid to Jericho. Is it correct that VGS will recover the property taxes through its gas service rates? If yes, then please explain how the property tax is deemed to be a benefit to customers who pay for it. If no, how does VGS plan to recover these property taxes?
11. Please refer to the response to PSD: VGS-1-44(d) which refers to the evaluation of line extensions on a "blended basis."
 - a. Does blended basis mean that the evaluation is based on the roll-in of extension costs with VGS's other facilities?
 - b. If the response to Part (a) is no, please explain the meaning of "blended basis."
 - c. If the response to (a) is yes, please provide the line extension costs and incremental revenues for each of the years until both the amounts are the same.
 - d. Please provide the derivation of the blended return of 12 percent.
12. Please refer to VGS's response to PSD: VGS 1-49. Does Mr. Carr agree that the benefits referred to in this response relate only to VGS customers? Please describe the basis for this response.

- a. If the response is no, describe to whom the benefits relate and describe the relevance of such benefits to the instant proceeding.
- b. If the response is yes, does Mr. Carr agree that the customers' average incremental cost of capital is equal to credit card interest?
 - i. If so, please describe the appropriateness of using the credit card interest rate as a proper discount rate to be used in a cost/benefit analysis. If the credit card interest rate is appropriate, then explain why it was not used in the benefit/cost analysis.
 - ii. If not, please provide Mr. Carr's estimated incremental cost to customers.
- c. Will ratepayers be charged for all line extensions including the VGS authorized rate of return?
 - i. If yes, what is the VGS rate of return and explain the reasons why this rate is not a proper discount rate for a cost/benefit analysis.
 - ii. If no, what would be the rate of return charged to customers?
- d. In the response to PSD: VGS 1-49, Mr. Carr provided long term capital rates for low risk U.S. Government investments. Does Mr. Carr consider the investment in the Addison Expansion Project to be an equivalent risk profile as is associated with U.S. Government investments?
 - i. If yes, please explain the response.
 - ii. If no, please explain the reason for using a discount rate based on Mr. Carr's evaluation of low risk investments.
- e. Please provide all of Mr. Carr's cost/benefit analysis based on the discount rate

equal to VGS's authorized rate of return.

- f. Please provide all of Mr. Carr's cost/benefit analysis based on the discount rate equal to VGS's weighted average cost of capital.

13. Please explain the differences in the Net Present Value Analysis provided in Attachments ANR.VGS.RTP1-3 and PSD.VGS.a-48.1 and 1-48.2.

14. PSD:VGS 1-52 (b) requested Mr. Carr to provide his reasons for not using different cost assumptions in his PV analysis. Reasons were not provided. Please provide them here.

15. VGS's response to PSD: VGS 1-54 (d)(iii) states that VGS intends to serve Monkton, New Haven, Bristol and St. George, but that peak day estimates have not been calculated yet. Please utilize historical in-fill rates, or other methodology explained by VGS, to estimate the peak capacity needed if the project is fully built and Monkton, New Haven, Bristol, and St. George are served. Would the inclusion of these peak loads require additional system capacity?

- a. If yes, has Mr. Carr's PV analysis included the impact of this cost?
- b. If Mr. Carr's PV analysis has not included the impact of this cost, please explain the response and reasons for not including the cost of the needed system capacity increase.

16. The response to PSD: VGS 1-56(d) refers to the Testimony and Exhibits in Docket No. 7929. Please provide the specific reference to page number(s) of Testimony and Exhibits Nos. which provides the response to PSD: VGS 1-56(d).

17. The response to PSD: VGS 1-60 states that VGS will seek the Board's approval to use withdrawals from the System Expansion and Reliability Fund to cover the difference in the

- cost of service with and without the Project and the Addison market. If the Board does not approve such recovery, would VGS complete the Addison Expansion Project? If yes, please describe how VGS will finance the Project and recover the Project cost.
18. The response to PSD: VGS 1-60(e) states that VGS intends to do a long term bond issuance for the debt portion of the Project. Has VGS already issued a long term bond to finance the Project? If yes, what is the amount of the bond issued? If no, when is VGS planning to issue the bond? Please estimate the amount of such issuance.
19. Will VGS use the short term bonds for the construction of the ANGP?
- a. If yes, what would be the estimated average cost?
 - b. If no, how is VGS planning to finance the construction?
20. What is the current source of the gas in the VGS system?
21. To the best of your knowledge is there any “fracked” gas from Pennsylvania, Ohio, or any other place?
22. After Phase I of the Addison Expansion Project is complete, what will be the excess capacity on the 12 inch transmission pipeline from south of Burlington?
23. After Phase II of the Addison Expansion Project is complete, what will be the excess capacity on the 12 inch transmission pipeline from south of Burlington?
24. What is the long term plan for additional mains and services and what new service territories will be explored after Phase I and II of the Addison Expansion Project have been completed?
25. For Phase I of the Addison Expansion Project, how much of the new load is projected to be firm and how much interruptible?

26. After the completion of Phase II (the addition of International Paper and possibly some small communities along the way), how much of the new load is projected to be firm and how much interruptible?
27. Are there any plans for VGS to diversify their gas supply by connecting to another transmission main in Vermont, Massachusetts, and/or New York? If yes, where and with what supplier?
28. What are the sizes of the pig launcher and receiver (diameter times length or volume in cubic feet) that will be used for the Addison Expansion Project?
29. How often does VGS expect to use the pig launchers and receivers after starting up the Phase I expansion?
30. What measures does VGS plan to take to minimize the amount of natural gas that is lost to atmosphere during:
 - a. Routine operations such as running cleaning pigs?
 - b. During pigging operations?
 - c. During maintenance operations such as purging?
31. What growth rate in gas usage has VGS used in determining the capacity needed:
 - a. In Phase I of the Addison Expansion Project?
 - b. In Phase II of the Addison Expansion Project?
32. How much of the lost and unaccounted for gas (L&U) is estimated to be from company use (estimating that L&U is about 80 million cubic feet)?
33. Where do typical gas emissions come from, and how much of the 1 percent L&U is attributable to:

- a. Outside force damage (1st, 2nd, and 3rd party damages)?
- b. Construction activities such as new service tie in, main expansions, looping transmission system?
- c. Meter inaccuracy?
- d. Safety blow downs and purges?
- e. Non-outside force damage Leaks

34. In the pre-filed testimony of Eileen Simollardes Exhibit EMS -1 there is an estimate of the reduction of greenhouse gases (GHG).

- a. Does this reduction take into account any of the methane emissions that are part of the 1 percent L&U that VGS experiences? What factor of GHG does VGS use for methane compared to carbon dioxide?
- b. If the response to (a) is no, please provide a calculation for both the first year case and the cumulative 20 year case presented in the exhibit. In doing so, please take into account the amount of methane, using the equivalent carbon dioxide amount, estimated to escape to the atmosphere.

35. Has VGS ever done a study or had a study prepared by others, comparing gas system emissions to other sources of methane emissions such as agricultural, solid waste operations, horticultural, etc.?

- a. If yes, please provide a copy.
- b. If no, why not?

36. Does VGS have any construction and/or engineering standards that will be used on the Addison Gas Expansion project that specify the following:

- a. Distances between test stations;
- b. Types and locations of impressed current rectifiers;
- c. Voltages for holiday testing of specific coatings;
- d. Methods of ensuring electrical isolation between transmission main segments;
- e. Isolating transmission main segments from interference currents (either or both AC or DC).
- f. If any answer to questions (a) through (e) is yes, please provide those engineering standards;
- g. If any answer to questions (a) through (e) is no, please provide a narrative on what standards are going to be used or provide the alternative standards that are being proposed.

37. What is the anticipated date for the following designs/activities to be available for review:

- a. Source of steel for pipe
- b. Pipe mill for rolling of steel into pipe
- c. Coating mill
- d. Pipe coating type
- e. Design of cathodic protection system
- f. Location of and number of cathodic protection rectifiers
- g. AC and DC interference surveys
- h. Design of AC and DC interference mitigation measures

38. What diversified supply pipeline system designs have been explored? Please provide designs.

- a. How have geographic system load centers (such as higher density developed areas, large industrial loads and/or power generation), associated diversified supply ratios and percentages of load from varying transmission sources been considered?

Please provide analysis.

- b. What optimal pipeline configurations have been determined for long term planning? Please provide designs and analysis.
- c. If VGS has not done this please explain why?

39. What will the operating pressure need to be in the proposed 12 inch transmission pipeline between Burlington and Middlebury, to maintain all VGS firm load(s), in a possible future configuration where the proposed pipeline is connected to the US pipeline network, and the US pipeline network is the sole gas supply for the complete projected VGS system load (without any supply from Canada)?

- a. Provide answer for the estimated 2020 Load requirements, with indication of gas quantities and analysis.
- b. Provide answer for the estimated 2035 Load requirements, with indication of gas quantities and analysis.
- c. Provide answer for the estimated 2050 Load requirements, with indication of gas quantities and analysis.


40. What will the operating pressure need to be in the proposed 12 inch transmission pipeline between Burlington and Middlebury, to maintain all VGS firm load(s), in a possible future configuration where the pipeline is connected to the US pipeline network, and the Burlington VT load is supplied with 50 percent of the gas (required to satisfy that load)

transmitted from the US pipeline network and 50 percent transmitted from the existing Canadian pipeline connected to the VGS transmission system?

- a. Provide answers for the estimated 2020 Load requirements, with indication of gas quantities and analysis.
- b. Provide answers for the estimated 2035 Load requirements, with indication of gas quantities and analysis.
- c. Provide answers for the estimated 2050 Load requirements, with indication of gas quantities and analysis.

Dated at Montpelier, Vermont this 17th day of May, 2013.

VERMONT PUBLIC SERVICE DEPARTMENT

By: 

Louise Porter
Special Counsel

cc: Docket No. 7970 Service List