

November 21, 2014

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli

**Re: Greenfield South Power Corporation
Application for Certificate of Public Convenience and Necessity
Board File No. EB-2014-0299**

We are counsel to Union Gas Limited ("Union") and hereby submit Union's interrogatories on the evidence of Greenfield South Power Corporation pursuant to Procedural Order No. 2 regarding the above noted application.

Yours truly,

[Original signed by]

Charles Keizer

cc (by email): Hubert Vogt, Greenfield South Power Corporation
Mike Richmond, McMillan Binch LLP
Miriam Heinz, Ontario Power Authority

UNION GAS LIMITED
INTERROGATORIES TO GREENFIELD SOUTH POWER CORPORATION

1. *Reference:* Greenfield South Application and Supplementary Evidence

Preamble: Greenfield South's application and the supplementary evidence prepared by John Todd of Elenchus Research Associates (page 3) state that the total capital cost of the GEPP Natural Gas Utilization System from the Vector Tap to the related metering facilities near the power plant is estimated to be \$500,000 (\$250,000 for GEPP underground pipe and fittings and \$250,000 for GEPP Meter & Control Station) and the cost of the Vector Tap is another \$1,125,000.

Questions:

- (a) Will the GEPP Meter & Control Station be providing a regulated pressure supply? If yes, at what pressure?
- (b) Please identify where and how the natural gas will be odourized.
- (c) Please specify the protocols that will be in place, from an integrity management perspective, to ensure the safe and reliable delivery of natural gas from the Vector Tap to the GEPP.

2. *Reference:* Greenfield South Application (page CPCN-13) and Supplementary Evidence (page 7)

Preamble: Greenfield South indicates that it will be capable of operating as either a baseload or an intermediate generating resource on the Ontario power grid and that negotiations for natural gas delivery services were conducted with Union Gas between the summer of 2012 and the fall of 2013. Greenfield South submits that during that time, Union Gas presented two service options - Firm Service (T1 Service, which subsequently became T2 Service) and Interruptible Service.

Questions:

- (a) Please confirm that Union prepared a Rate T2 interruptible service offer at Greenfield South's request.
- (b) Please explain why Greenfield South asked Union for an interruptible gas distribution service when it will have firm commitments to provide power as a Clean Energy Supply generator.
- (c) Please provide details of all gas supply arrangements that Greenfield South has put in place to date.

3. *Reference:* Greenfield South Pre-filed Evidence and Supplementary Evidence

Preamble: Greenfield South indicates in its pre-filed evidence that the GEPP Natural Gas Utilization System includes a NPS 8 inch high pressure steel pipe connected to the Vector pipeline (page CPCN-8), that the Vector Pipeline has sufficient physical gas transportation capacity to meet this requirement (page CPCN-13) and that it anticipates using a number of the Vector Pipeline services to meet its needs (page CPCN-16).

Appendix 34 of Greenfield South's supplementary evidence submitted November 5, 2014 is a letter dated October 26, 2012 from Vector Pipeline to Eastern Power Limited in which Vector proposes services to meet the proposed GEPP load of 2,320 GJ/hour. The Vector services are Firm Transport – Hourly ("FT-H") and Operational Variance Service ("OVS"). Vector states in its proposal letter that for FT-H:

"There are two main requirements of this service. The first is that the receipt and delivery volumes need to be equal and synchronous each hour. This demands Eastern contract with a third-party storage provider that has a service that will match up with FT-H (both Union and Enbridge have such services). The second requirement is that nominations cannot be made for retroactive hours."

For the OVS service, Vector states in its letter:

"Like FT-H, OVS requires a service from a storage provider that will match up to it".

Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates includes a description of the Greenfield / Vector Service Option which is used to develop a comparative analysis versus acquiring service from Union Gas.

Questions:

- (a) Please confirm that Greenfield South is unable to operate the GEPP in the manner represented in the Greenfield / Vector Service Option without contracting for services from a third-party storage provider.
- (b) Please confirm Greenfield South's hourly requirement of 2,320 GJ/hour.
- (c) Please provide details of discussions / correspondence with storage service providers with whom Greenfield South has contacted for the required services to match Vector's FT-H and OVS services.
- (d) Please provide the status of the contracts for each of these third party storage services.
- (e) Please describe and detail the costs of the third party services required to match Vector's FT-H and OVS services.
- (f) Please indicate if any third-party storage provider has confirmed in writing whether firm services are the available to match Vector's FT-H and OVS services.

4. *Reference:* Greenfield South Supplementary Evidence

Preamble: Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates includes tables 1, 2, 3 and 4 where capital and operating costs are translated into a Present Value.

Questions:

- (a) Please provide all data and assumptions used in the calculations and a copy of the live Excel spreadsheet with formulas intact of the annual figures for the discounted cash flow showing the derivation of the present value for each of tables 1, 2, 3 and 4.
- (b) Please provide details of the cost of the storage services matching up with the FT-H service on an annual basis and how Mr. Todd has included this in the discounted cash flow for table 1 and, if not included, why this significant cost is excluded in the analysis.
- (c) Please provide details of the cost of the storage services matching up with the OVS service on an annual basis and how Mr. Todd has included this in the discounted cash flow for table 1 and, if not included, why this significant cost is excluded in the analysis.
- (d) Please reproduce tables 1 and 4 with the anticipated costs of the required storage services included.

5. *Reference: Greenfield South Supplementary Evidence*

Preamble: Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates includes a reference to an Interconnection Agreement with Vector Pipeline under which Greenfield South will transport natural gas to the GEPP using Vector's Hourly Firm Transportation Service (FT-H) and Operation Variance Service (OVS). Mr. Todd states (page 3) that the FT-H service is a firm service; hence, unlike the Union Service Option, it cannot be curtailed during periods of high natural gas demand.

Appendix 34 of Greenfield South's supplementary evidence submitted November 5, 2014 is a letter dated October 26, 2012 from Vector Pipeline which indicates that the primary receipt point for its FT-H service is Union-Dawn or Sombra-Enbridge Gas Distribution.

Question:

Please provide details of the firm transportation service that Greenfield South has contracted to ensure firm capacity is available from the receipt point to the delivery point where Greenfield South interconnects with Vector Pipeline.

6. *Reference: Greenfield South Supplementary Evidence*

Preamble: Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates suggests (page 8) that under Union's Rate T2 interruptible service, Greenfield South's gas supply will be interrupted periodically. Greenfield South has estimated that each day that its gas supply is interrupted is likely to result in a loss of net income in the order of \$135,000.

Appendix 31 of Greenfield South's supplementary evidence identifies natural gas service interruptions in Enbridge's Central Delivery Area.

Question:

Please explain how the reliability of service in Enbridge's CDA is an accurate indicator of service reliability on Union's Sarnia Industrial Line.

7. *Reference: Greenfield South Supplementary Evidence*

Preamble: Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates indicates that the annual cost of credit support for the Union interruptible service option is estimated to be \$402,000 initially based on Union's requirement to post an initial \$6 million Letter of Credit which would decline over the term of the contract. The cost of credit support for the Vector Pipeline connection is estimated to be \$35,510 annually.

These costs of credit support are based what appears to be a weighted average cost of capital of 6.7% associated with the Green Electron Power Plant (per Appendix 27).

According to the Ontario Energy Board's EB-2009-0084 Report of the Board on the Cost of Capital for Ontario's Regulated Utilities, the deemed capital structure for electricity generators is determined on a case-by-case basis (page 50).

Questions:

- (a) Please provide documentation and explanations of the capital structure, debt rate and equity return level assumed in Greenfield's calculations in Appendix 27.
- (b) Please confirm that the Ontario Energy Board's current weighted average cost of capital for an electricity generator assuming a deemed capital structure of 40% equity, 60% debt is 6.56%.

8. *Reference:* Greenfield South Application, Appendix 14

Preamble: In Appendix 17.4 (AMEC Natural Resources Baseline Report and Environmental Impact Study East Site) of the Environmental Screening and Review Report prepared by Greenfield South found in Appendix 14, Species at Risk are discussed at pages 16-23 and 32-41. The AMEC Report states that there is the potential for Blanding's Turtle, Butler's Garter Snake and the Eastern Fox Snake to be found in the vicinity of the proposed Vector Pipeline connection and the proposed pipeline from Vector to the Greenfield South power plant. At page 33 of its report, AMEC recommends that continuing consultation with the MNR is required and that further species-specific considerations may be required depending on the outcome of consultation with the MNR.

Questions:

- (a) Please provide copies of any studies that have been completed in regard to Species at Risk.
- (b) Please provide a list of all mitigation measures that will be implemented to protect Species at Risk.
- (c) Please provide copies of any permits Greenfield South has obtained in relation to Species at Risk, or Letters of Advice from the Ontario Ministry of Natural Resources and Forests.
- (d) Please provide the results of the recommended consultation with MNR in relation to the proposed construction of the Vector tie in, and the proposed pipeline from Vector to the Greenfield South power plant.

9. *Reference:* Greenfield South Application, Appendix 14 and Amended Application

Preamble: At page CPCN-15 of its amended evidence, Greenfield South states that "Vector has already been federally authorized to proceed with the Vector Tap". At Appendix 11 of its application, Greenfield South provides a copy of the National Energy Board Streamlining Order XG/XO-100-2012. Step 2.7 of the Streamlining Order states that "the project will not impact Schedule 1 Species at Risk Act species (plant and/or wildlife) or habitat".

In Appendix 17.4 (AMEC Natural Resources Baseline Report and Environmental Impact Study East Site) of the Environmental Screening and Review Report prepared by Greenfield South found in Appendix 14 of its application, Species at Risk are discussed.

Question:

Please explain how step 2.7 of the Streamlining Order has been addressed by Greenfield South.