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Ms. Kirsten Walli
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Ontario Energy Board
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Your reference
EB-2012-0451
EB-2012-0433
EB-2013-0074

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Dear Ms. Walli:

Enbridge GTA Project (EB-2012-0451)
Union Parkway West Project (EB-2012-0433)
Union Brantford-Kirkwall Parkway D (EB-2013-0074)

Please find attached revised information requests of APPrO for each of the above-noted proceedings, correcting the numbering in section A.1 APPrO 5. No other changes were made.

Yours very truly,

Original signed by

John Beauchamp
Associate

JB/mm

Enclosure

Cop(y/ies) to: All interested parties

DOCSTOR: 2714043\1

Interrogatories from the Association of Power Producers of Ontario (APPrO)

EB-2012-0433 Union Parkway West EB-2012-0451 Enbridge GTA Reinforcement EB-2013-0074 Union Parkway Growth Projects

RELATED ISSUES

A.1 Are the proposed facilities needed? Considerations may include but are not limited to demand, reliability, security of supply, flexibility, constraints, operational risk, cost savings and diversity as well as the Board's statutory objectives.

A.1 APPrO 1

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 1 Purpose Need & Timing

Preamble: Enbridge has indicated that while the GTA Reinforcement Project helps to meet multiple needs, the primary benefits are to manage operational risks and meet the 10 year system growth requirements. This is a significant capital program affecting all rate classes and APPrO would like to better understand the need for these facilities, and would first like to explore the operational risks of the system and how this reinforcement alleviates such risk. Paragraph 10 indicates that the reserve or unutilized capacity is used to accommodate necessary pressure and/or flow reductions required to mitigate downstream vulnerabilities, manage day to day maintenance, integrity programs, unplanned events, and balance system flows.

- a) Please explain what is meant by 'downstream vulnerability'.
- b) Please explain how using reserve capacity is used to balance system flows and if the primary system capacity is also able to provide such balancing?
- c) Please explain how Enbridge is accomplishing these tasks today without the proposed reserve capacity.
- d) In terms of system maintenance, it is understood that Enbridge has developed a comprehensive asset management plan with a related work and asset management system. Some of the benefits of these comprehensive systems ought to be to use these extensive management systems to identify potential problems and take corrective action on a planned basis in advance of an emergency situation. Further they ought to be able to be used to also schedule maintenance during times other than times when the design day flow is expected to occur? If so, does this not reduce the need for reserve capacity over time rather than increase such need?
- e) Please express the current average daily flow observed by Enbridge during the period April-November on their GTA XHP system as a percentage of the aggregate GTA XHP system design flow on the design day of the year.
- f) Does Enbridge have an OEB approved design policy to determine how much reserve capacity should be included in pipeline designs? If so, please provide.

- g) Is there an industry standard on the inclusion of reserve capacity in pipeline designs? If so please provide.
- h) In the event that there is no Board approved, or industry design standard used to determine the amount of excess capacity, please explain in detail how Enbridge arrived at the targeted capacity that is included in the GTA reinforcement design that will act as reserve capacity.
- i) How much total reserve capacity has been provided for in the GTA Reinforcement design?
- j) How much is the annual owning and operating cost of providing this reserve capacity that is being proposed?
- k) Enbridge appears to be changing the entry point of 400,000 GJ/d of supply currently entering the distribution system at Victoria Square to Parkway. Will the facilities that are no longer used to transport gas from Victoria Square be considered as reserve capacity?
- l) Please provide a description of the major incidents that have occurred over the last 5 years where Enbridge was not able to accommodate the 'downstream vulnerabilities, or other maintenance activities with the reserve capacity in the system that existed at the time. Please detail any incremental costs that may have been incurred in managing such incidents.
- m) In the event that the Board were to approve the proposed facilities including the reserve capacity requested, please indicate the annual operations and maintenance savings that will occur from having the flexibility proposed in this expansion.
- n) It is understood that both Union and TransCanada are primary suppliers of gas transportation services to Enbridge and do provide certain redundancy protection in their compressor designs to protect against mechanical equipment failure. Is Enbridge aware if either Union or TransCanada has reserve pipeline capacity included in their peak day pipeline design (i.e. not LCU compressor station design) to accommodate similar types of risks on their system as the risks raised by Enbridge?

A.1 APPrO 2

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 1 Purpose Need & Timing

Preamble: In paragraph 8, Enbridge indicates that the GTA Reinforcement Project is required to maintain adequate inlet pressures to Station B to supply the Portlands Energy Centre (PEC).

- a) Please confirm that PEC is not changing its contractual volumes or other contract parameters which trigger the development of the proposed facilities (i.e. Segment A and Segment B).

- b) Please confirm that the pipeline facilities that are required to serve PEC were approved and constructed pursuant to EB-2006-0305 and further that the required capital contribution in aid of construction under EBO 188 has been collected from PEC.
- c) Please confirm that as noted in the Board's decision, the facilities added by Enbridge pursuant to EB-2006-0305 "meets the contractual demands of Portlands and maintains the operational characteristics of the distribution system".
- d) Paragraph 18 indicates that a supply disruption at Parkway would result in losses greater than 270,000 customers including PEC.
 - i. Please provide the nature of the disruption that is anticipated (time of year, volume of supply losses, duration of outage, etc.) that would result in the customer losses anticipated.
 - ii. What volume of gas is consumed by the 270,000 customers on a peak day?
 - iii. Please confirm that PEC is fed via Victoria Square Gate station and not Parkway.
 - iv. Assuming that PEC continues to deliver the required supply at Victoria Square, please explain how a curtailment in Enbridge's receipts at Parkway results in a pressure loss in the Don Valley line.
 - v. Assuming that PEC can still accommodate the prevailing system pressure under these circumstances, please confirm that PEC could continue to consume a volume of gas up to its contract quantity provided that it delivers its gas supply.

A.1 APPrO 3

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 1 Purpose Need & Timing, and Exhibit A Tab 3 Schedule 4 Table 3

Preamble: Enbridge has a number of objectives related to meeting the 10 year growth requirements as well as other objectives to reduce operational risks. Enbridge has provided a comprehensive 10 year solution. APPrO would like to understand if solutions with a shorter term time horizon are feasible.

- a) If Enbridge were to add facilities to only meet:
 - i. The 3 year growth targets 2015 to 2018, and
 - ii. The 5 year growth targets 2015 to 2020,

and not taking into account the other operational objectives or changes in gas supply arrangements, what are the lowest cost stand-alone facilities that would be required to serve each of these 2 growth targets in the GTA?
{Note: from A/3/4 Table 3 the 3/5 year growth volumes are 43/92 TJ/d respectively.

A.1 APPrO 4

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 1 Entry Point Diversity

Preamble: Figure 5 illustrates the percentage of volumes entering the Enbridge system.

Enbridge is concerned about the percentage of gas entering the system from any one or a small group of gate stations

- a) Please redraw Figure 5 assuming the GTA facilities are in place using the same volumes that are in Figure 5. Please explain how the new facilities alleviates Enbridge's concern that 96% of the supply comes from a few gate stations.
- b) Please provide a schematic that better illustrates the interconnections at Parkway between TCPL and Enbridge as well as Union and Enbridge both before and with the proposed facilities. Please indicate those pipeline systems that have independent operation pressures.
- c) Please explain if Enbridge's diversity concern relates to:
 - i. The reliability of the gate station; if so can Enbridge improve the reliability through adding additional redundancy within the operating components of the station?
 - ii. Reliability of the upstream pipeline; if so how does adding additional downstream capacity assist this problem?

A.1 APPrO 5

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 4 Market Growth

Preamble: Enbridge discusses the market growth for the region and APPrO would like to better understand the nature of the growth.

- a) Enbridge illustrates in Table 1 the customer growth by customer count from 2015 to 2025 by customer type (Residential, Commercial, Apartment, and Industrial). Please provide a table that illustrates the peak day growth impacts (GJ/d) by rate class, by year from 2015-2025 for the market area being served by the GTA Reinforcement project.
- b) Please provide a breakdown by rate class of the peak day volumes and the resulting percentages of gas supplied by Enbridge as system gas and direct purchase gas for the current period.

- c) Enbridge notes at Exhibit A Tab 3 Schedule 1 paragraph 9, that Segment A will add 800 TJ/d of capacity upstream of the Albion Road Station. A portion of this capacity will facilitate the growth expected to be served via Segment B. Exhibit A Tab 3 Schedule 4 Table 3 indicates that the growth in peak day demand between 2025 and 2015 (2,631-2,443 TJ/d) is 188 TJ/d. With the additional non-growth related capacity on Segment A being 612 TJ/d (800 TJ/d – 188 TJ/d), please indicate how much of this 612/TJ/d of peak day capacity by 2025 ,will be utilized to meet peak day demand, reserved or otherwise targeted for the following types of customers. Within each grouping please provide your response by the applicable rate class:
- i. System gas customers acquiring their gas from Enbridge via Parkway
 - ii. Direct purchase bundled customers delivering their volumetric requirement at Parkway/Dawn
 - iii. Direct purchase bundled customers that require Enbridge to deliver their balancing requirements (i.e. the difference between their peak day load and their average daily requirement)
 - iv. Unbundled customers
 - v. Other purposes (please specify)
- d) As part of the GTA reinforcement, Enbridge is proposing to add 192 TJ/d of capacity for residential, commercial and industrial customers through to 2025. Please detail how the costs associated with this 10 year “advanced capacity” will be allocated to the various rate classes between 2015 and 2025.

A.1 APPrO 6

Reference: EB-2013-0074 Section 7 Union North, Enbridge and GMi Capacity,

Preamble: Union filed a letter dated April 29, 2013 received from TransCanada as part of a submission to the NEB in TransCanada’s Mainline tariff amendments. The letter dealt with TransCanada notice to Union that it did not receive its Board approval to construct its proposed 2015 expansion project downstream of Parkway.

- a) Please file a copy of the letter(s) received from TransCanada.
- b) Is Union aware if Enbridge and GMi received similar letters from TransCanada?
- c) Please discuss how this lack of approval for downstream facilities affects Union’s Dawn-Parkway expansion projects. This discussion should include, but not limited to the proposed facilities, potential reconfiguration of the interconnection with Enbridge’s GTA project, timing, rate implications and economic and other justification for the expansion.
- d) Enbridge in its GTA reinforcement project plans on transporting 400,000 GJ/d of gas on Union’s expansion projects. In the event that the OEB does not approve Segment A of the GTA project please discuss how this affects the Dawn-Parkway growth projects.

- e) Is the contract with Vermont Gas for 8,100 GJ/d impacted in any way by TransCanada's lack of approval to expand downstream of Parkway?

A.1 APPrO 7

Reference: EB-2012-0433 Application

Preamble: Union is proposing to construct the Parkway West project which consists of various pipeline and compressor facilities to provide redundancy protection against potential compressor and pipeline failures. The sizing of the compressor and related piping is intended to cover the loss of the largest compressor at Parkway, which is understood to be the proposed Parkway D compressor (EB-2013-0074).

- a) Please discuss the implications of the sizing and timing and other issues related to the proposed Parkway West facilities under the following circumstances:
- i. The facilities that applied for under EB-2013-0074 are downsized to recognize the potential inability of shippers to transport those volumes downstream of Parkway on TransCanada.
 - ii. The EB-2012-0074 facilities are downsized under the assumption that Segment A of Enbridge's GTA reinforcement is not approved.
 - iii. The combination of i. and ii. above.

A.2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

A.2 APPrO 8

Reference: EB-2013-0074 Schedules 9-1 to 9-3B, EB-2012-0433 Section 11

Preamble: Union provides the PI calculation in Schedules 9-3 A and B which are based on the underlying assumptions included in Schedules 9-1 and 9-2. Union is also proposing to construct Parkway West, a LCU compressor and related piping that will cost approximately \$203 million.

- a) Please confirm that the PI calculations included in EB-2013-0074 exclude any cost allocation for the LCU compressor project.
- b) It appears that some of the piping infrastructure that is being developed as part of the Parkway West LCU project is required to facilitate the development and operation of Parkway D. Please discuss the rationale to exclude any of the Parkway West project costs in the PI calculation for The EB-2013-0074 project.

- c) Please recalculate the PI for the EB-2013-0074 project assuming that a percentage of the capital and operating costs of the Parkway West project were attributable to the EB-2013-0074 project. Please use a percentage that represents the ratio that Parkway D horse power represents to the total horsepower of Parkway A, B and D.

A.3 Are the costs of the facilities and the rate impacts to customers appropriate?

A.3 APPrO 9

Reference: EB-2012-0451 Exhibit E Project Benefits and Economics

Preamble: Enbridge discusses the benefits and economics of the project and APPrO would like to better understand such benefits and economics.

- a) Please provide an annual revenue requirement and rate impact by rate class for 2015-2025 for all rate classes illustrating the incremental revenue requirement flowing from the GTA reinforcement project and the resulting incremental rate increases that will be incurred when the cost consequences of the project are implemented. Please also illustrate the current 2013 rate for comparison. In the event that TransCanada is unable to get approval to proceed with the Shared Pipeline, please also illustrate the requested information without TransCanada as a party to the Shared Pipeline.
- b) For the table headed "Savings on Gas Transportation", on the 'Summary of Inputs' on page 8 of 9 illustrates benefits to direct purchase customers:
- i. Please indicate Enbridge's policy with respect to direct purchase volumes utilizing this new system.
 - ii. Please break out the benefits shown for system gas by rate class
 - iii. Please break out the benefits shown for direct purchase by rate class

A.4 What are the alternatives to the proposed facilities? Are any alternatives to the proposed facilities preferable to the proposed facilities?

A.4 APPrO 10

Reference: EB-2012-0451 Exhibit A Tab 3 Schedule 7 Alternatives

Preamble: Enbridge discusses the alternatives to the proposed project and APPrO would like to better understand these alternatives as they relate to meeting primarily the growth objectives.

- a) Enbridge discusses the potential use of compression at Station B as a project alternative. If Enbridge were to consider only the system growth requirements, please describe what minimum compression facilities and the resulting costs would be required to accommodate growth requirements as at 2020 and also the incremental facilities to handle additional growth to 2025.
- b) Enbridge indicates that siting compression in an urban area can be problematic, and that this option was less favourable, but presumably, this conclusion may have been arrived at taking into account all of Enbridge's objectives. Please discuss the potential to utilize compression at this location to only meet the growth requirements.
- c) Enbridge indicates that use of compression would require new business and labour processes for the Company in this geographic region. Please confirm that the Company has significant expertise in operation and maintenance of compression equipment in its Tecumseh gas storage operation and that such business and labour processes could be adapted accordingly.

A.4 APPrO 11

Reference: EB-2012-0433 Section 10

Preamble: On page 3 of 11, Union indicates that it has risk of Dawn to Parkway and Dawn to Kirkwall turnback capacity risk after 2015, and further that remarketing the capacity is contingent on the Parkway D compressor, APPrO would like to understand the implications and alternatives considered should this risk materialize.

- a) Please provide a schedule of expiring M12 and C1 contracts up to 2020. Please organize the contract volumes by market region served by Union (e.g. market regions could include: Ontario market, Quebec market, New England market, Mid-Atlantic market, others).
- b) Has Union performed any risk analysis on potential turnback capacity (such as a competitive analysis for supplies being transported on the Dawn-Parkway system for each market region compared to other supply options such customers in the respective market may have access to in order to help assess the risk of turnback)? If so please provide. If not would Union agree that providing this analysis may provide insight into the potential for turnback?
- c) Has Union considered other short term alternative solutions to building facilities that could be used until such time as it has a better understanding of the post-2015 turnback risk?
- d) Union indicates if there is turnback then re-marketing capacity is contingent on having the Parkway D compressor in place. Schedule 8-2 indicates that the available horsepower at Parkway is 87.9 MW, whereas only 75 MW is required. This same schedule also shows that even with the proposed facilities, there is a shortfall in total

system capacity compared to the required system capacity equal to 123,563 GJ/d, suggesting that the proposed expansion project is pipeline capacity constrained.

- i. If the turnback capacity is existing Dawn-Parkway capacity, would this not already have the necessary compression associated with it to allow Union to remarket the capacity?
- ii. The surplus horsepower at Parkway D is about 13 MW, how much additional throughput could be accommodated with this compression?
- iii. Since there is a current shortfall of system capacity if 123,563 GJ/d, would the spare horsepower at Parkway D not be required to compress this shortfall volume in the event that there is future pipeline system expansion?
- iv. Assuming that the turnback capacity was related to the Dawn-Kirkwall path, what additional pipeline facilities would be necessary to utilize the additional surplus horsepower at Parkway D to remarket such turnback capacity. Please include an estimate of the capital related for this further expansion necessary to remarket Dawn-Parkway capacity.

D.5 Should approval of Enbridge's proposed rate methodology for the service to be provided to TransCanada be granted?

D.5 APPrO 12

Reference: EB-2012-0451 Exhibit E Tab 1 Schedule 2 and Schedule 2 Attachment 1

Preamble: Enbridge provides a stand-alone rate for the capacity under contract to TransCanada and revenue requirement for Rate 332 for the Share Pipeline

- a) Please provide the status of Enbridge's negotiations with TransCanada for both TransCanada's transportation agreement on Enbridge related to Segment A, as well as the status of the transportation agreement that Enbridge will have on TransCanada for the transportation between Parkway and Bram West.
- b) Please describe how the revenue requirement will be re-determined through time if there are changes in: the actual installed capital cost, return, O&M expenses, taxes, depreciation rates, etc.
- c) How will this service and its respective rates and other charges/credits be affected by future incentive rate proceedings?
- d) In the event that this section of pipe requires some form of capital outlay in the future (such as a partial replacement, due to age, location or condition, abandonment etc. or reinforcement for growth) or a major O&M expense, how will the future revenue requirement be affected?

- e) In the event that other parties are interested in contracting over the same path or other paths on the XHP system is this methodology rate available to other shippers? Explain.
- f) Will Albion become a receipt point on the Enbridge system for deliveries by TransCanada for Enbridge's direct purchase customers?