

A. RELATED ISSUES

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.

General EGD IR's

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3

Preamble: EGD has described some of the limitations to its current system. The following are general questions in this area at the outset.

1. For the record, please provide the specific size and maximum allowable operating pressure (MAOP) for:
 - a. the Markham South Lines
 - b. The TCPL lines that travel between Parkway and Markham Gate including the lines that feed from the north to Maple.
2. Has EGD performed a comprehensive study to determine if key pipe sections could be increased in maximum allowable operating pressure (MAOP)?
 - a. Please provide all internal reports that address this issue from a technical perspective and/or economic perspective
 - b. If not performed to this juncture, please provide an estimate of the amount of time it would take to complete this study.
3. From a network analysis perspective, please explain the difference between a steady state and transient analysis model?

4. For the purposes of analyzing the GTA system does EGD use a steady state or transient model?
5. If EGD does use a transient model, please provide the results of the simulations for the GTA system for peak day of:
 - a. Winter 2014/15 with current facilities and forecasted hourly loads throughout a peak day
 - b. Winter 2015/16 with current facilities and forecasted hourly loads throughout a peak day
 - c. Winter 2015/16 with Segment A only and forecasted hourly loads throughout a peak day
 - d. Winter 2015/16 with Segment B only and forecasted hourly loads throughout a peak day
 - e. Winter 2015/16 with only the Victoria Square Gate Station to Sheppard Ave portion of Segment B and forecasted hourly loads throughout a peak day
 - f. Winter 2015/16 with an alternative NPS 16 line from the end of the new 500 psi Markham south line to the new 36" on the Don Valley line and forecasted hourly loads throughout a peak day

For each of the above scenarios, please optimize the system to increase pressure at Station B and provide an updated thematic Figure 2 (GTA System Operation - Peak Day conditions) with peak hour throughputs and resulting pressures at key stations or delivery points:

- i. Albion Rd. Station
- ii. Keele/CNR Station
- iii. Downsview Station
- iv. Martin Grove Station
- v. Buttonville Station (from west inlet)
- vi. Buttonville Station (from north inlet)
- vii. Jonesville Station

viii. Station B

6. If EGD does not use a transient model, please explain why including the economic factors that would make such a decision prudent.
7. If EGD does not use a transient model, please provide a rough cost estimate that create a skeletal model of the main transmission features to do a high level evaluation of the above scenarios. To be specific, the model contemplated would only have a few dozen nodes with pressure or hourly volume profiles.
8. Absent a transient analysis, if EGD has only a steady state model, please provide the results of the simulation requests in IR 5 above providing the deliverables requested.
9. Please provide the results of the last system verification. To be clear, we are looking for a degree-day adjusted comparison of simulated and actual pressures and flows at the critical nodes in the GTA system. Please provide the internal reports that speak to the validation(s) or limitation(s) of the model that was verified.
10. EGD has stated in its evidence that the paramount system pressure concern is the pressure of 225 psi at Station B (Footnote 7, page 6 of 24). However, it also states that Station B's inlet pressure is required to maintain the minimum contractual 200 psi to serve PEC (Footnote 10, page 7 of 24).
 - a. Please specify the single minimum pressure required at station B inlet to meet EGD's customer needs.
 - b. If the 225 psi is needed at station B to maintain broader pipe network pressures, did EGD assess whether station B could enhanced to decrease this inlet requirement while meeting the design flow?
 - c. If the 225 psi is needed to meet the minimum inlet at PEC, please provide the pressure drop between the inlet to station B and the customer station at PEC under design conditions and current contracted demand (peak hour).

Specific EGD IR'S

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 4 and Attachment Figure 1

Preamble: Footnote 3 states the current operating pressure of the NPS 30 line from Victoria Square operates at 450 psi while Figure 1 describes the Maximum Operating Pressure as 480 psi.

11. Please confirm this distinction.

- a. Please provide the reason for the lowering of operating from maximum allowable.
- b. Please provide the investment required to bring this pipeline up to an operating pressure of 480 psi.
- c. Using the most effective simulation EGD has in place, please provide the incremental pressure at Station B with this increase in operating pressure.
- d. Given current load forecasts, is it possible to defer Segment B with this MOP increase? If so, how long?

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 11, Table 1

Preamble: Table 1 illustrates that Entry Point is a limitation in the Supply Chain.

12. Please confirm that the single gate referred to is Parkway.

13. Please confirm that the result of the Board's acceptance of the EGD plan would increase the percentage of volumes from Union Gas' Parkway area facilities.

- a. Please provide the loss of customers that would be incurred if EGD lost service from Union Gas (ie., existing or proposed facilities).

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 13, paragraph 23

Preamble: The company states: "At a minimum , supply would have to be terminated to PEC".

14. Does EGD have any terms in the PEC contract that allow for a termination of service under an upset condition that could limit supply and put base load customers at risk?
- a. In EGD's view, would the force majeure clause allow for a risk-based choice of cutting service to PEC versus interrupting tens of thousands of customers, especially during winter conditions?

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 14, paragraph 26 and Attachment Figure 1

15. Does the reference to two pipelines operating at 80% of normal operating pressure refer to any of the pipelines shown in Attachment Figure 1?
- a. If so, please describe the pipelines affected.
 - b. Please describe the impact of these decreases in operating pressure on pressures at Station B.
 - c. If there is a substantial impact, please provide an update on the assessment, expected remedial measures and potential impacts on Station B pressure.

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 18, paragraph 33 and Table 3

Preamble: We are presuming that the reference to the two pipelines to have reduced operating pressure in paragraph 33 are the NPS 26 and NPS 30.

16. For each of the respective pipelines in Table 3:

- a. At what pressures are the SMYS calculated
- b. If both Segment A and Segment B are constructed, what would be the planned operating pressure of the lines?
- c. For the NPS 26 and NPS 30, would an alternative line, as described in IR 5f. allow for a reduction in operating pressure of the these lines?

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 20, Figure 5

17. Using an alternative NPS 16 line from the Markham south line as described in 5f. and the proportional change in throughputs from the four largest Gate stations, please update Figure 5 to show the impact of the alternative line on peak day flows (base line vs. base line and the NPS 16 alternative).

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 20 and 21, paragraph 37

Preamble: We are presuming that the system modelling referred to in paragraph 37 is EGD system modelling.

18. Please provide the most recent results from modelling done for the Eastern Canadian Mutual Assistance Program for an outage at Parkway station.
 - a. If there is any more recent simulations done in conjunction with pipelines and utilities for the purposes of emergency planning, please provide those results and any reports created
 - b. Please provide the results of any simulations performed in conjunction with TCPL and EGD as a result of the coordinated efforts to bring the applications in this proceeding in front of the Board.

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 23, paragraph 44

Preamble: EGD has cited concerns regarding the level of "discretionary" services.

19. Please confirm that Short Term Firm Transport ("STFT") has:
- a. the same level of priority of service as Firm Transport ("FT").
 - b. has a higher level of priority of service than Interruptible ("IT")

REF: EB-2012-0451 EX. A, Tab 3 Schedule 5, page 20, paragraph 42

Preamble: EGD states: By replacing approximately 100,000 GJ/d of peaking supplies and 300,000 GJ/d of STFT to the Enbridge CDA with supplies sourced from Dawn and Niagara the Company expects to generate gas supply savings of approximately \$410 million over the 2015 to 2025 timeframe for system gas customers.

20. Please provide the calculations and underlying assumptions for this estimate.
- a. Please provide any quotes for the value of gas at Niagara for this 10 year period.
 - b. Please provide any quotes for the value of gas at Niagara in 2015.

REF: EB-2012-0433 Section 8, page 68, para 20-21

21. Please provide the most update to date scenario analyses performed by the ECMAP.
- a. Please provide any additional recent scenario analyses provided by any other mutual assistance group or service provider.

REF: EB-2013-0074 Schedule B, paragraph 6

Preamble: Union's evidence states: "By building the Project, Union is pro-actively addressing the impacts of future turn back. Union will be better positioned to re-purpose or re-sell turn back capacity provided market opportunities exist. The ability to re-purpose or re-sell turn back capacity would help mitigate future rate risk for Union's customers"

22. Please provide schematic diagrams showing the before and after impact of the Brantford to Kirkwall loop providing:

- a. Design day pressures and throughputs at key nodes in the system:
 - i. Dawn
 - ii. Lobo
 - iii. Bright
 - iv. Brantford
 - v. Kirkwall
 - vi. Parkway

REF: EB-2013-0074 Section 6, Figure 6-1

Preamble: Figure 6-1 provides history showing the contracted capacity between Dawn and Kirkwall decreasing over time.

23. Please provide data on how adding an additional loop of pipe between Dawn and Kirkwall would be preferential to expanding facilities capacity between Kirkwall and Parkway.

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?

REF: EB-2012-0451 EX. E, Tab 1 Schedule 3 and EX. A, Tab 3 Schedule 5

24. Please provide the specific reference(s) from EBO 134 that EGD is relying on in producing its Discounted Cash Flow Analysis using Transportation savings.
- Please provide the specific references that support the comparison of the economics of the application with a future hypothetical state as is defined in Schedule 5 called the Long Haul scenario.
 - Please provide the results of the DCF analysis if transportation savings are not incorporated.

REF: EB-2012-0451 EX. A, Tab 3 Schedule 5, pages 21-30

Preamble: Evidence in the referenced section builds a case for a hypothetical dramatic shift in gas supply arrangements due to recent changes triggered by TCPL's recently concluded rates proceeding.

25. Please provide specific evidentiary references that support EGD's conclusion that STFT services may not be available by 2016 necessitating a shift to Long Haul Firm Service contracting.
26. Under the Long Haul scenario, does EGD have sufficient storage to make this scenario feasible from a seasonable balancing perspective?
- If not, what has been assumed about the excess summer transport?
 - If optimization is expected, has EGD estimated and included the benefits of optimizations in reducing the cost of transport?
27. Under the Long Haul scenario, does EGD have the authority to require Direct Purchase customers to accept an additional 151TJ of assigned capacity?

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

REF: EB-2012-0433 Section 12, page 103, para. 8 and EB-2013-0074 Section 10 page 5-6

Preamble: In the above references, Union states that it is not proposing any changes to the allocation methodology of Dawn-Parkway transmission costs. Page 6 contains the following two quotes:

"Based on the current Board-approved allocation of Dawn-Parkway costs, adjusted to include the increase in Union North demands of approximately 70,000 GJ/d and M12 demands of 363,000 GJ/d associated with the Project (for a total of 433,000 GJ/d), in-franchise rate classes are allocated approximately 16% of the costs directly attributable to the Project. The remaining 84% of costs directly attributable to the Project are allocated to ex-franchise rate classes."

AND

"Specifically, Union North in-franchise rate classes are allocated approximately \$1.4 million in existing Dawn-Parkway costs and the M12 rate class is allocated approximately \$0.1 million.

28. Please reconcile and explain what appears to be a disproportionate increase in allocation of cost relative to the increase in daily demand on the Dawn-Parkway system.
- Is Union's evidence stating that if the Distance Weighting cost allocation methodology is re-run using the expected volumes in 2018, the in-franchise and ex-franchise allocations would still be 16% and 84% respectively?
 - If not, what would the percentage allocations be?

REF: EB-2012-0433 Schedule 10-2 and 10-3 and EB-2013-0074

29. Please provide Schedules that provide cost allocation and bill impacts for the Union rate classes when both the Brantford-Kirkwall, Parkway D and Parkway West projects are combined.

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

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3

30. Please provide a high level cost for the line described in A-1. 5f. assuming the rail line right-of-way or other suitable corridor resulted in limited land acquisition costs (i.e., please provide a high level cost for the construction of the alternative NPS 16 line at the required length)?

REF: EB-2012-0433 Section 10, page 84, para. 3.f)

31. Please clarify the stated condition that Union cannot purchase incremental gas supply?

REF: EB-2012-0433 Section 10, page 84, para. 5 and page 91-92, para. 40

Preamble: Union's evidence provides that the flow on almost all days and certainly any peak day is from Parkway to Maple. Union's evaluation criteria in para. 5 states : "Any alternative considered must have the equivalent affect of transporting natural gas from the suction side of the compressors to the discharge side of the compressors".

32. From discussions held with TCPL on alternatives, what % of gas leaving Parkway discharge side is expected to arrive at Maple (i.e., netting out existing TCPL flows into the EGD system between Parkway and Maple)?

- a. If Union does not currently have the answer, please seek the answer from TCPL and provide it for the record.
- b. With that answer, why has Union stipulated that 1.1PJ must be available to the discharge side of Parkway when the destination for most of the gas is Maple?

- c. What is the current level of excess capacity?
- d. What was the cost of emergency service provided by TCPL?
- e. If Union does not have a current estimate from TCPL, please request an estimate from TCPL for provision as a considered alternative.

REF: EB-2012-0433 Section 10, page 91, para. 39

33. What was the basis for the range of price estimate of \$25-\$40 million for STFT service?

REF: EB-2012-0433 Section 10, page 92-93, para. 41 and Schedule 10-2

34. Please explain in greater detail why a Dawn to Empress/Emerson service would be required to balance at Dawn during a short term critical delivery scenario.
- a. Using TCPL Index of Customers, please identify the market participants that would currently hold 1.1 PJ/day of capacity between Emerson and Dawn to facilitate this stated need for service.

5. Is the proposed timing of the various components of the projects appropriate?

REF: EB-2012-0451 EX. A, Tab 3 Schedule 3, page 13, paragraph 24 and Attachment Figure 1

Preamble: Paragraph 24 states the NPS 26 operating pressure at 375 psi while Footnote 6 provides a MOP of 400 psi.

35. Please confirm this distinction.
- a. Please provide the reason for the lowering of operating from maximum allowable.
 - b. Please provide the investment required to bring this pipeline up to an operating pressure of 400 psi.

- c. Using the most effective simulation EGD has in place, please provide the incremental pressure at Station B with this increase in operating pressure.
- d. Given current load forecasts, is it possible to defer Segment B with this MOP increase? If so, how long?
- e. If the pressure were increased in the NPS 30 to 480 psi (IR 11) and the pressure were increased NPS 26 to 400 psi, is it possible to defer Segment B with this MOP increase? If so, how long?

D. Enbridge Gas Distribution Inc. - GTA Project (EB-2012-0451)

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

REF: EB-2012-0451 EX. E, Tab 1 Schedule 2, page 2, paragraphs 7-8

36. Conditions Precedent

- a. Please provide all conditions precedent including specified deadlines that will need to be fulfilled or waived prior to:
 - i. Pipe ordering
 - ii. Pipe installation
- b. Are there any scenarios whereby EGD or its customers would be held responsible for incremental costs above the stated NPS 36 requirement?

37. Please provide the resulting full design capacity if EGD proceeds with the NPS 36 line.