

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ASSOCIATION OF POWER PRODUCERS OF ONTARIO INTERROGATORY #1

INTERROGATORY

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

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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?

RESPONSE

- a) Downstream vulnerability refers to any situation that requires a change from normal operation. As described in Exhibit A, Tab 3 Schedule 3, Page 12 Paragraph 21 this could be but is not limited to integrity activities, maintenance activities, planned construction work, or unplanned system events, such as damages to plant.
- b) Reserve capacity allows Enbridge to redirect flows on alternate supply paths and can be used to balance flows on the system to meet nomination requirements. The existing system capacity can also be utilized to perform balancing functions, but is constrained during near peak conditions, or when abnormal conditions exist on the distribution system.
- c) The system is managed today as planned construction activities are conducted during non-peak time from April to October. Fortunately, major unplanned events that have occurred on the system have by chance happened during non-peak gas consumption times when demand was low enough to provide sufficient reserve capacity.
- d) Enbridge generally plans maintenance activities on the system during non-peak conditions and leverages the Asset Plan to identify and prioritize these activities. However, as Exhibit A, Tab 3 Schedule 3, Paragraph 26 discusses there are many situations that could result in a temporary reduction of system pressures. Should one of these events occur at a time where the system lacks sufficient reserve capacity, there could be a loss of service to firm customers.
- e) The following table provides a summary of the average daily flow during the April to November time from in 2012. The forecasted peak flow is the estimated demand at design conditions in the GTA influence area.

| | Apr-12 | May-12 | Jun-12 | Jul-12 | Aug-12 | Sep-12 | Oct-12 | Nov-12 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Daily flow to GTA Influence Area (TJ) | 669 | 350 | 290 | 318 | 311 | 336 | 535 | 867 |
| Forecasted peak (TJ) | 2388 | 2388 | 2388 | 2388 | 2388 | 2388 | 2388 | 2388 |
| Daily as percentage of peak | 28% | 15% | 12% | 13% | 13% | 14% | 22% | 36% |

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- f) There is no OEB approved design policy that relates to reserve capacity.
- g) There is no industry standard on reserve capacity. However, the distribution system must have the ability to redirect flows during an abnormal operating condition. Exhibit A, Tab 3, Schedule 3, Attachment 4, Section 7, Pages 31 and 32 discuss the findings of an independent review of the GTA system.
- h) An Enbridge distribution system design consideration is the ability to lower the operating pressure of any single pipeline that is operating above 30% SMYS to less than 30% SMYS at a design day condition.
- i) The approximate reserve capacity specifically at Station B is 160TJ/day in 2015 and reduces to 130TJ/day by 2025. This is the capacity on the distribution network at Station B and assumes that the gas contracts are available from upstream supplies. This is a function of both increased pipe facilities and also network synergies created by removal of network constraints.
- j) The reserve capacity created is a result of meeting the project objectives and cannot be isolated from the total project costs.
- k) Once pressures are reduced on the Don Valley line, there will be available capacity on the facilities that transport gas from Victoria Square.
- l) Incidents or activities relating to the existing reserve capacity.
 - In 2008, a leaking fitting required the isolation of the NPS 30 main in November. A maintenance force majeure was called and PEC was taken off the system. Additional costs were a refund of the demand charges to PEC.
 - In 2008, a section of the Don Valley line was relocated. Given that this is the only main that can supply the required contract delivery pressures, bypasses were required at each location the new pipe was tied into the existing system. The additional cost was on the order of several hundred

thousand dollars. With the facilities proposed, the existing main would have been sectionalized and depressurized.

- A fire at the Lisgar Gate station in 2009 resulted in an extended outage of this facility. This incident occurred in late summer and the extended duration of the outage meant that heating load was increasing and resulted in lower pressures in the south Etobicoke area.
- m) The new facilities will increase system flexibility when completing maintenance work and repairs. For example, it is possible that the facilities might allow a repair without installing a bypass which could result in savings, although they are very difficult to quantify at this time.
- n) Enbridge cannot comment on reserve capacity on the Union Gas or TransCanada mainline systems.