Board Staff Interrogatories

EB-2013-0053

Hydro One Networks Inc.

Leave to Construct

Guelph Area Transmission Refurbishment

May 6, 2013

NOTE:
Some responses may require the input of the Ontario Power Authority, the Independent System Operator or Local Distribution Companies.

Interrogatory #1: Historical and Forecast Electricity Demand

Reference(s):

(1) Ontario Power Authority Report, March 2013-Exhibit B/Tab 1/Schedule 5

Preamble:

Board staff seeks clarification of the load growth forecast in the KWCG area:

The OPA reports (Reference 1at line 10, page 8) that demand "… is expected to continue to grow at a pace of nearly 3% per year between 2010 and 2023."
In Reference (1), at page 6, line 12 the OPA advises that the demand for electricity recovered to pre-recession levels in the summer of 2010.

Reference 2 at line 23 indicates that customers of Cedar TS will reduce the exposure of customers supplied by Cedar TS to supply outages, provide increased supply diversity and reliability of supply, lower losses and improve operational flexibility to the area.

Question(s)/Request(s):

1. Has the OPA reviewed the figures from the area LDCs so that it is able to verify the forecast growth rates and assure there is no double counting by the LDCs making up the area load? Does the OPA adopt the forecast growth as its own evidence?

2. Is the OPA defining the pre-recession period as 2004-2007 as shown in Figure 3 page 9 of ref 1 as "pre-economic downturn"?

3. Is it correct to deduce from the Figure 3, page 9 that the growth from 2005 to 2012 was 0%?

4. A 3% growth rate for 2010 to 2023 (2% net of CD and DG) is reflected in Reference 1, page 13, line 10. However, electrical demand from 2004 to 2011 is lagging by 1% or more behind the GDP growth, yet in the years 2010-2023 it is equal. What are the factors that make this higher demand a credible result? Please provide comment on the following table:

	2004-2007	2004-2011	2010-2023	
GDP Per Ref 1	>3% lines10-11, p9	2% lines 8-9,p9	2%	
Actual/forecast [Per Ref 1]	3% [page 8, line 9]	1% [page 8 lines 8-9]	2% net of CD & DG [Note page 9 in Fig 3]	
ratio	>1:1	2:1	1:1	

5. Reference 1, Table 1, page 10 indicates an increase in Demand forecast for "Kitchener and Cambridge" from 2012 to 2013 as 401 to 506 MW, which is greater than 25%. Also Reference 1, Figure 6, page 21 has a large discontinuity between 2012 and 2013 in the net Demand. This is not identified as a high growth area in the paragraph at line 11 on page 10. Please explain the basis for this specific increase.

6. Figure 3 shows no actual growth in demand from 2010 to 2012, a period which overlaps the 2010-2013. Has this "actual" been considered in the forecast for 2010-2023? What average annual growth is predicted then for the period 2012-2023?

7. Reference 1, section 5.1 "Need for Additional Supply Capacity", at page 13 identifies 3 need areas. Please clarify if each of the "needs" is met by the upgrading which is the subject of the current Leave to Construct application. If the current project does not on its own fulfil the need then indicate which additional projects will be required to meet that need.

8. Reference 1 Section 6.1page 17, line 19 indicates that 35% of the load growth will be off-set by Conservation. Please
   a) provide information on the confidence level or certainty with which this will be achieved
   b) indicate the consequences of reductions in load through conservation being under-achieved, say by 50%
   c) indicate the possibility for increasing the off-set through conservation by further expenditure.

Interrogatory #2: Need for the Project
Reference:
(1) Ontario Power Authority Report, March 2013-Exhibit B/Tab 1/Schedule 5
(2) Exhibit B/Tab 1/Schedule 4/

Preamble:

Reference 1, section 5.2 “Need to Minimize the Impact of Supply Interruptions to Customers” suggests that load growth and ORTAC requirements mean that customer interruptions are likely to be excessive without this and related projects going in service.

Reference 2 at Page 3 line 23 indicates that the project “will reduce the exposure of customers supplied by Cedar TS to supply outages, provide increased supply diversity and reliability of supply, lower losses and improves operational flexibility to the area”.

Question(s)/Request(s):

1. Please provide a brief explanation of why the system does not currently meet or is not required to meet ORTAC requirements.

2. Regarding Reference 1, section 5.2 and Reference 2, line 23

    a. Please provide, for each of Cedar TS, Campbell TS, and other TSs in the KWCG area which would be remedied by the proposed project, the current and historical Customer Delivery Point performance statistics which demonstrate that customer reliability is a concern, including historical records for at least the last 5 years,.
    b. Please indicate any actions which have been taken by those delivery point owners to mitigate the poor performance which is alluded to.

Interrogatory #3: Land Issues

Reference:
(1)Exhibit B/Tab 6/Schedule 1/
(2)Exhibit B/Tab 6/Schedule 1/

Preamble:

Question(s)/Request(s):

1. Please provide a larger scale map (1:50,000 or better) of the upgraded line area bounded by Campbell TS, ABB Junction CGE Junction, and Cedar TS Transformer Station. The map should clearly identify the subject facilities, rivers and road and highway names in the immediate area, and the location of steel poles and lattice structures.

2. Please provide a more detailed description and plan drawing of the location details of the Cedar TS in relation to adjacent properties.

3. Please indicate if land rights have been obtained as required

Interrogatory #6: Project Costs and Economics

Reference(s):
(1) Ontario Power Authority Report, March 2013-Exhibit B/Tab 1/Schedule 5
(2) Exhibit B, Tab 4, Schedule 3

Preamble:

Question(s)/Request(s):

1. Please confirm the attached table as a summary of the reference 1, section 6.3 (page 23) Transformation Options

OPTION Reinforcement from the	TOTAL COST	Km of line to be upgraded	Other upgrades required	
South (Burlington TS)	$200m	42km	Reconductored 115kV or new 230kV B5G/B6G	Requires temporary bypass, conversion of numerous TSs
West (Kitchener-Guelph)	$130m	33km	Reconductored 115kV or new 230kV F11C/F12C	Requires temporary bypass, conversion of numerous TSs
North (Waterloo-Guelph) PROPOSED OPTION (*includes current $60m Leave to Construct Application)	$80m	5km	Reconductoring/new 230kV at $27.5m*	New Cedar TS auto-transforrmers* and 4-115kV breakers, 2-230kV breakers (Inverhaugh SS) and addl autotransformer (Preston TS)

2. Why is it necessary or desirable and cost effective to advance the relocation of the existing Hydro One Distribution Operating Centre at Cedar TS? Has this part of the overall option been approved in a Board hearing, and if so which one?

3. Please reconcile the different estimates for the preferred option as provided at
   a) Reference 1, page 25, line 1 ($80m) and
   b) Reference 1, page 28, line 20 (approximately $95 to $105m)

4. Please indicate if there are any stranded assets resulting from the upgrade of the line and the amount of the project associated with stranded assets, and describe them.

5. Please indicate the gross and net value of the project dedicated to removal of facilities which will no longer be in service.

6. Reference 2 at page 1, section 2.0 (page 2, line 15) indicates that the existing 115kV line facilities are classified as Line Connection Assets, and the new 230kV facilities which replace it will establish "a new independent network path and local loop" configuration and will be classified as Network Assets. And the 115/230kV Autotransformers are Network Assets in accordance with the RFE report (Page 2 lines 21-).
    a. Please clarify if this classification for this project has previously received Board approval or acknowledgement in any rate application hearing, and provide the reference
    b. Alternatively, please identify when this classification will be presented to the Board in a rate hearing or if that reclassification is being sought in this proceeding.

7. The Discounted Cash Flow ("DCF") Analysis is provided at page 5. Hydro One clarified at the time of application that this Leave to Construct application covered only a portion of the GATR project.
    a. Please confirm that this analysis covers the entire project and not just the facilities which are part of the current Leave to Construct application. E.g. the Leave to Construct application does not include the 230 kV breakers at North Junction (Inverhaugh SS) or the 115kV breakers.
    b. Has the DCF analysis for the overall project been approved by the Board in another hearing, or is this the first time approval is requested?
    c. In the event that this is the first presentation to the Board of the entire overall GATR project, please provide a DCF analysis for the components of the Leave to Construct project.

Interrogatory #7: System Impact Assessment

Reference: (1) Exhibit B/Tab 6/Schedule 3
(2) Exhibit /Tab /Schedule

Preamble:
A System Impact Assessment ("SIA") Draft report dated February 28, 2013 was provided with the application

Questions/Requests:

1. Reference 1 at page 1 indicates that the project does not resolve all problems in the area and that further projects will be required. Please indicate those additional projects which have already been identified by Hydro One, and if

they have been included in any rate hearings as a component requiring increased rates. Indicate the project name, description, rate hearing in which they were included, and the approximate dollar value of the project, schedule, and description of what they would accomplish.

2. Commencing at page 1 of Reference 1, the IESO indicates both project specific and general requirements to be fulfilled for the project to receive conditional approval. For each of the 2 project specific and 8 general requirements, please indicate whether and how the requirements have been or will be fulfilled.

3. Section 2.4 of the SIA, Protection Systems, states "As currently assessed by the IESO, Inverhaugh SS and Cedar TS are not part of the NPCC-defined Bulk Power System (BPS) and, therefore are not designated as essential to the power system. In the future, as the electrical system evolves, this facility may be placed on the BPS list."
    a. Does Hydro One agree that these facilities should not be BPS facilities?
    b. Please indicate whether these facilities will or will not meet NPCC criteria for the Bulk Power System, or if this will only be done at the time and if the facility is placed on the BPS list?

Interrogatory #8: Customer Impact Assessment

Reference: Exhibit B/Tab 6/Schedule 4

Preamble:
The pre-filed evidence includes a Draft Customer Impact Assessment ("CIA") document dated March 25, 2013.

Question(s)/Request(s):

1. Please provide an expected date for the completion of the CIA. If it is available please submit it to the Board.

2. Have steps been taken to advise customers of the results of the Assessment, so that they can review their facilities as per the section 5.0 conclusions?

Interrogatory #9: Industry Standards and Codes

Reference:
Exhibit B/ Tab 1/ Page 5

Preamble: Compliance with Industry Standards and Codes

Question(s)/Request(s):

1. Please indicate the relevant standards for design and construction of the transmission facilities.

2. Please indicate the voltage and nature (e.g. rural distribution supply, underground cable, water pipes, railway lines etc.) of any other existing facilities in the right-of-way which might affect construction;

3. Please indicate installation procedure for the new line in relation to continuing operation of the existing facilities in the right-of-way, as identified in the previous question.

4. Please indicate design and construction standards and procedures, relating to high voltage and other electromagnetic effects, which will protect pre-existing facilities and personnel from direct and induced currents and voltages. Include in your discussion corrosion protection, cable location identification, and grounding for safety and “tingle” or “stray” voltage.

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