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BY EMAIL

March 24, 2022

Ms. Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Marconi:

**Re: Generic UTR Issues Proceeding
Export Transmission Service Rate
OEB Staff Interrogatories**

Ontario Energy Board File Number: EB-2021-0243

In accordance with Procedural Order No. 1 please find attached the OEB staff interrogatories for the above proceeding. This document has been sent to Hydro One and the IESO and to all other registered parties to this proceeding.

Yours truly,

Michael Price
Senior Advisor, Generation & Transmission

cc. All parties to EB-2021-0243

Encl.

**Generic UTR Issues Proceeding
Export Transmission Service Rate
EB-2021-0243
OEB Staff Interrogatories
March 24, 2022**

Please note: Hydro One and the IESO are responsible for ensuring that all documents they file with the OEB, including responses to OEB staff questions and any other supporting documentation, do not include personal information (as that phrase is defined in the *Freedom of Information and Protection of Privacy Act*), unless filed in accordance with rule 9A of the OEB's *Rules of Practice and Procedure*.

Staff-1

Ref.: ETS Rate Submission¹ / p. 3

Preamble

The ETS (Export Transmission Service) Rate Submission states that one of the issues that emerged since the market opening is “What ought to be an appropriate charge level to help defray the costs to domestic customers for the use of the network transmission facilities to facilitate export and wheel-through transactions?”

Question(s)

- a) In Hydro One's view, what is the purpose of the ETS? What problem is the ETS intended to solve?

The following questions, parts b) to g), are for the IESO:

- b) In the IESO's view, what is the purpose of the ETS? What problem is the ETS intended to solve?
- c) Please explain and clarify a wheel-through transaction including any differences with an export transaction.
- d) Please provide annual Ontario export and wheel-through quantities (TWh) from 2012 to 2021 by neighbouring jurisdictions.

¹ ETS Rate Submission is the Joint Report filed by Hydro One and IESO on October 14, 2021. Where references are made to attachments in the Joint Report, they are referred to as Submissions on the ETS Rate with the specific attachment number identified.

- e) Please confirm if all export and wheel-through transactions in Ontario are subject to ETS charges. If not, please specify which transactions are not subject to ETS charges, their quantity, and the rationale.
- f) Please confirm if all export and wheel-through transactions in Ontario are subject to the Intertie Congestion Price (ICP). If not, please specify which transactions are not subject to ICP charges, their quantity, and the rationale.
- g) Please confirm and specify if there are any other charges that export and wheel-through transactions are subject to in Ontario (e.g., “uplifts”). If so, please specify which transactions are subject to these other charges. their quantity and the rationale.

Staff-2

Ref.: ETS Rate Submission / p. 8

Preamble

In the 2021 Elenchus Report, Elenchus surveyed whether other jurisdictions use cost allocation principles for the purpose of allocating shared network costs between domestic and export classes.

Question(s)

- a) Please confirm which jurisdictions use cost allocation principles for the purpose of allocating shared network costs between domestic and export classes.
- b) For those jurisdictions that use cost allocation principles for the purpose of allocating shared network costs between domestic and export classes, please specify the principles used, the amount of the allocation and the rate charges.
- c) Are there any directional-based approaches (e.g., value-based, market-based) in other jurisdictions for the purpose of allocating shared network costs including ICP? If yes, please specify.
- d) Are there any settlement-based approaches in other jurisdictions for the purpose of allocating shared network costs? If, yes please specify.
- e) Are there any other approaches in other jurisdictions for the purpose of allocating shared network costs? If, yes please specify.

Staff-3

Ref.: ETS Rate Submission / p. 10

Preamble

Hydro One engaged CRA to update its 2012 Jurisdictional Review to reflect current export transmission service rates in other jurisdictions, the rationale behind those rates and how market implications are considered in the setting of export transmission service rates in those jurisdictions. Most jurisdictions included in the 2021 CRA Study apply Open Access Transmission Tariff (OATT) rates for export services, which promote competitive and non-discriminatory transmission access.

Question(s)

- a) Are there any directional based approaches in other jurisdictions for the setting of export transmission service rates including ICP? If yes, please specify.
- b) Are there any settlement-based approaches in other jurisdictions for the setting of ETS rates? If, yes please specify.
- c) Are there any other approaches in other jurisdictions for the setting of ETS rates? If, yes please specify.
- d) Please provide the rationale behind ETS rates in other jurisdictions.
- e) Please provide how market implications are considered in the setting of ETS rates in those jurisdictions.
- f) Which of Ontario's neighbouring jurisdictions have import transmission service rates? Please provide the rationale behind import transmission service rates in those jurisdictions and how market implications are considered in the setting of import transmission service rates in those jurisdictions.
- g) Which of Ontario's neighbouring jurisdictions have do not have import transmission service rates? Please provide the rationale behind no import transmission service rates in those jurisdictions and the market implications in those jurisdictions.

Staff-4

Ref.: ETS Rate Submission / p. 11

Preamble

Hydro One is the only Ontario transmitter that owns and operates the intertie facilities that are accounted for in the approved ETS rates. Based on the current ETS rate of \$1.85/MWh. Hydro One's forecasted ETS revenues during the 2023 to 2027 period are approximately \$37 million per year.

Question(s)

- a) Please confirm the 2021 Elenchus Report proposal is for ETS revenue to apply to all Ontario transmitters.
- b) Please confirm the export load forecast for Hydro One's revenue requirement in EB-2021-0110 is based on a three-year rolling average of forecast load volume.
- c) Please provide Hydro One's forecasted annual revenue requirement, ETS revenues and load forecast for each year from 2023 to 2027 and the resultant ETS rates based on the 2014 Elenchus Report methodology and based on each of the three options to allocate shared network asset-related costs to export customers in the 2021 Elenchus Report.
- d) Please provide all other Ontario transmitters forecasted annual revenue requirement, load forecasts and ETS revenue for each year from 2023 to 2027 and the resultant ETS rates from 2023 to 2027 based on the 2014 Elenchus Report methodology and based on each of the three options to allocate shared network asset-related costs to export customers in the 2021 Elenchus Report.
- e) If other Ontario transmitters forecasted annual revenue requirement, load forecasts and ETS revenue for each year from 2023 to 2027 are not available please apply the 2021 Elenchus Report adjustment for other transmitters approved revenue requirement to determine the resultant ETS rates from 2023 to 2027 based on the 2014 Elenchus Report methodology and based on each of the three options to allocate shared network asset-related costs to export customers in the 2021 Elenchus Report.
- f) Please provide, if any, the Hydro One variance account established and explain the reconciliation process if the annual ETS revenue forecast is not met for Hydro One.
- g) Please explain if any variance accounts will be required if the ETS revenue forecast is not met for the other Ontario transmitters. What will be the

reconciliation process?

Staff-5

Ref.: ETS Rate Submission / p. 11

Preamble

The joint submission states that any changes in the approved ETS Rate would have a neutral impact on Hydro One's overall transmission revenues because an increase or decrease in the ETS Rate would result in an equal and opposite increase or decrease in the amount by which Hydro One's rates revenue requirement is offset for purposes of recovery through UTRs.

Question(s)

- a) Please confirm that Hydro One expects that any decrease in the ETS rate will be recovered from Ontario transmission customers through the UTR.
- b) Please specify who Hydro One expects to recover the revenue that it would otherwise obtain through the ETS rate from and the mechanism if the ETS rate is set to zero.

Staff-6

Ref.: ETS Rate Submission / pp. 11-12

Preamble

Hydro One states that it understands from the IESO's comments that changes in the ETS Rate can impact the volume of export transactions in the Ontario electricity market and that changes in the approved ETS Rate would have a neutral impact on Hydro One's overall transmission revenues.

Question(s)

- a) Please confirm that the volume of export transactions will change inversely proportional to changes in the ETS rate. If not, please quantify and explain the impact of changes to the ETS rate on the volume of export transactions.
- b) Please confirm that Hydro One is expecting that with the volume of export transactions changing on an inversely proportional basis to changes in the ETS rate, there will be a neutral impact on Hydro One's overall transmission revenues. If this is not the case, please explain and quantify how Hydro One

proposes that changes in the ETS rate would have a neutral impact on Hydro One's overall transmission revenues?

Staff-7

Ref.: Submissions on the ETS Rate / Attachment 1 / p. 3
Submissions on the ETS Rate / Attachment 1 / p. 6
Submissions on the ETS Rate / Attachment 1 / pp. 10-12
Submissions on the ETS Rate / Attachment 1 / p. 26

Preamble

In the 2014 Report, Elenchus proposed a cost allocation methodology to determine the ETS rate that was based on cost causality.

The assumptions used in developing the 2014 methodology were that:

- Export is only served when there is spare capacity available,
- Generators and importers in Ontario do not pay for the use of the Transmission System
- Hydro One's planning of the Network transmission system does not take into consideration the capacity needs of export customers,
- Export is treated as "Interruptible" for cost allocation purposes.

Elenchus divided assets into the functions:

- Dedicated to Domestic
- Dedicated to Interconnect
- Shared

and allocated to either export or domestic customers.

The 2021 Elenchus Report updates the ETS Rate to \$1.67/MWh based on the 2014 Report methodology.

Question(s)

- a) Please provide the allocation amount and ETS rate for the asset costs and OM&A expenses allocated separately to export and domestic customers for the Dedicated to Interconnect and Shared functions in the 2014 Report.
- b) Please update the values in question a) for the 2021 Elenchus Report and explain any variances between the 2014 Elenchus Report and the 2021 Elenchus Report.

c) If the updated ETS rate in question b) is not \$1.67/MWh, please explain why.

Staff-8

Ref.: Submissions on the ETS Rate / Attachment 1 / p. 14

Preamble

In the 2014 Report methodology, Elenchus recommended that 12 CP be used to allocate shared assets between domestic and export customers using the last year for which information was available.

The load forecast used for setting the ETS rate is the 3-year historical rolling average volume of electricity exported from or wheeled through Ontario.

Question(s)

- a) Please explain why the last year 12 CP is used to allocate assets instead of the 3-year historical rolling average 12 CP.
- b) Please propose rationale as to how often the 12 CP cost allocation value should be revised after the ETS is set.

Staff-9

Ref.: Submissions on the ETS Rate / Attachment 1 / pp. 13 to 14

Preamble

The asset functions identified were apportioned between domestic and export customers using the 12 CP allocator based on 2012 actual hourly data to develop composite allocators used to allocate shared OM&A expenses to domestic and export customer classes in the 2014 methodology. Table 3 includes the composite allocators used in the 2014 methodology. Table 1 indicates a 10.06% export allocator for 2012. Table 3 indicates a 7.11% export allocator for 2012.

Question(s)

- a) Please provide detailed calculations of how the 7.11% composite allocator is derived from the 10.06% export allocator.

Staff-10

Ref.: Submissions on the ETS Rate / Attachment 1 / p. 15

Preamble

The 2021 Elenchus Report states that the IESO does not factor exports into its reliability planning assessments. This means that the IESO does not procure generation or transmission assets to serve future export demand.

Question(s)

- a) Please confirm the IESO does not factor exports into its reliability planning assessments and that it does not procure generation or transmission assets to serve future export demand.

Staff-11

Ref.: Submissions on the ETS Rate / Attachment 1 / p. 19

Preamble

The IESO considers exporters to be a “curtailable” rather than “interruptible” class, consistent with the North American Reliability Council (NERC) definition of interruptible.

As domestic peak demands have declined in recent years, the approximate number of hours when exports curtailments were active have also fallen. In the first ten months of 2020, the IESO curtailed exports in approximately 18% of all hours to manage reliability.

Question(s)

- a) Please provide an update on the number of hours the IESO curtailed exports for 2020 and 2021.

Staff-12

Ref.: Submissions on the ETS Rate / Attachment 1 / p. 20

Preamble

Elenchus states that transmission rate-setting in Ontario differs considerably from the processes used in other jurisdictions. Elenchus did not find any jurisdictions in which cost allocation principles are used for the purpose of allocating shared network costs between domestic and export classes. Furthermore, cost allocation principles are not used to determine differential firm and non-firm charges.

These jurisdictions have postage stamp “Network Service charges” that are analogous to Ontario’s domestic transmission tariff. Exports are analogous to “Point-to-Point” transmission service, which are applied to the transmission of energy along specific paths, from a point of receipt to a point of delivery. Unlike Ontario’s Domestic and Export rates, which are set based on an allocation basis, Point-to-Point charges are calculated based on the Network Service charge.

Question(s)

- a) Please discuss and clarify the principles used for the purposes of allocating asset costs and OM&A expenses to export and domestic customers for the Dedicated to Interconnect and Shared functions in other jurisdictions in the 2021 Elenchus Report.
- b) In Elenchus’ experience are there any jurisdictions that it is aware of that use the methodologies proposed by Elenchus to allocate asset costs and OM&A expenses to export and domestic customers for the Dedicated to Interconnect and Shared functions. If not, please explain whether, in Elenchus’ professional judgment, the proposed methodology is sound practice.

Staff-13

Ref.: Submissions on the ETS Rate / Attachment 1 / pp. 11, 25-26

Preamble

The 2014 Elenchus Report methodology recommended allocating all assets and costs for functions Dedicated to Interconnect to the export class because importers do not pay for the use of the transmission system.

In the 2021 Report, Elenchus states that since importers also use interconnection assets, not all asset-related costs and OM&A expenses related to interconnection should be allocated only to the export class.

Elenchus proposes in the 2021 Report to allocate assets and OM&A expenses that are categorized as Dedicated to Interconnect by the Intertie 12CP between domestic and export class.

Question(s)

- a) Please explain if Elenchus is proposing an import charge in its 2021 Report by allocating 28.29% of Dedicated to Interconnect assets and expenses to Domestic and if so, what is the proposed charge(s).
- b) If Elenchus is not proposing an import charge in its 2021 Report for Dedicated to Interconnect assets and expenses, please explain how Elenchus is proposing that the assets and expenses be recovered?

Staff-14

Ref.: Submissions on the ETS Rate / Attachment 1 / Table 12

Preamble

Table 12 shows the allocators using 2020 Actual Hourly Data

Question(s)

- a) In Table 12, it appears that the Dedicated to Interconnect Domestic allocator is incorrect. Please confirm if this is the case, and if so, update the table.

Staff-15

Ref.: Submissions on the ETS Rate / Attachment 1 / Tables 2, 3, 11, 13 and 14
Submissions on the ETS Rate / Attachment 1 / p.12

Preamble

In the 2014 Elenchus Report, the OM&A costs related to the use of shared assets were allocated between domestic and export customers using 12 coincident peak allocators in Table 2 and the composite allocators in Table 3

for 2013. In Table 2, the shared assets 12 coincident peak factor for export is 10.59%.

In the 2021 Elenchus Report, the OM&A costs related to the use of shared assets were allocated between domestic and export customers using the 2012 coincident peak allocators in Tables 11 and 13 for 2020. In Table 11, the shared assets 12 coincident peak factor for export is 10.69%.

Question(s)

- a) Please recommend the frequency that the allocators should be updated taking into consideration among other things the change in coincident peak factors between 2013 and 2020.
- b) Please explain in detail why the 12 coincident peak factor is used to allocate 2020 Shared Network asset costs in Tables 12 and 13 while a composite allocation factor is used to allocate Shared Network asset costs in the 2014 report.
- c) Please provide the composite factors, if any, that were used in developing the proposed ETS rates in Table 14.

Staff-16

Ref.: Submissions on the ETS Rate / Attachment 1 / Table 13 / p. 29

Preamble

Table 13 shows the Net Fixed Allocators for each of the three Shared Network Asset-related costs methodologies.

Question(s)

- a) In Table 13, it appears that the columns labelled “Hybrid Model” and “Curtailement % Model” are transposed. Please confirm if this is the case, and if so, update the table.

Staff-17

Ref.: Submissions on the ETS Rate / Attachment 1 / pp. 29-31
Submissions on the ETS Rate / Attachment 1 / Table 14 / p. 31

Preamble

Table 14 shows the ETS rates for the 2014 Report methodology and for each of the three cost-based methodologies considered by Elenchus to be appropriate options to allocate Shared Network Asset-related costs to export customers.

Question(s)

- a) Please provide, using the table below, for each of the four ETS rates in Table 14 the dollar amount of the allocation of costs and the contribution to ETS rates separately for export and domestic customers. Also, break down the allocation by capital costs and OM&A expenses separately for each of the categories Dedicated to Domestic, Dedicated to Interconnect and Shared Network.

ETS Rate – (\$xx)	Allocated Costs (\$million)	ETS Rate Contribution (\$)
Dedicated to Domestic – Export Capital Costs		
Dedicated to Domestic – Domestic Capital Costs		
Dedicated to Domestic – Export OM&A Expenses		
Dedicated to Domestic – Domestic OM&A Expenses		
Dedicated to Interconnect – Export Capital Costs		
Dedicated to Interconnect – Domestic Capital Costs		
Dedicated to Interconnect – Export OM&A Expenses		
Dedicated to Interconnect – Domestic OM&A Expenses		
Shared Network – Export Capital Costs		
Shared Network - Domestic Capital Costs		
Shared Network – Export OM&A Expenses		
Shared Network – Domestic OM&A Expenses		

- b) Please provide for each of the four ETS rates in Table 14 the dollar amount of the allocation of costs and the contribution to ETS rates of external revenues received by Hydro One related to the use of Shared Network assets separately for export and domestic customers.
- c) Please clarify if external revenue of Shared Network assets should include other Ontario transmitters' approved revenue requirements similar to the proposed ETS rate adjustment in Table 15. If so, please provide for each of the four ETS rates in Table 14 the dollar amount of the allocation of costs and the contribution to ETS rates of external revenues received by other Ontario transmitters related to the use of Shared Network assets separately for export and domestic customers.
- d) Please clarify if export customers are allocated a portion of Shared Network assets in other jurisdictions.
- e) If yes, are the export customers allocated a portion of external revenues received by the transmitter related to the use of those assets? If so, please specify which jurisdictions and the amounts.

Staff-18

Ref.: Submissions on the ETS Rate / Attachment 1 / pp. 26-29

Preamble

In the 2021 Report, Elenchus considered the following three cost-based methodologies to be appropriate options to allocate Shared Network Asset-related costs to export customers:

- Fully allocate Shared Network Asset-related costs on the basis of Shared Net Fixed Assets.
- Apply an adjusted Shared Net Fixed Assets allocator with export 12CP discounted by 50%, as a proxy for a hybrid model, half-way between no allocation and full allocation of Shared Network Asset-related costs to exports.
- Apply an adjusted Shared Net Fixed Assets allocator with a percentage of export demand discounted based on the service curtailment that affected exports in the last few years. Assuming that exports were curtailed 20% of the hours in the last few years, adjust export volumes to 80%.

Question(s)

- a) Please confirm if the first option to fully allocate Shared Network Asset-related costs includes a curtailment of exports by using 12 CP as an allocator. If yes, please explain how the second and third options do not already include curtailment prior to their respective 50% and 20% discounts and whether an adjustment should be made.
- b) Please explain the merits of each of the three proposed options.
- c) On balance, which of the proposed options would Elenchus recommend and why?

Staff-19

Ref.: ETS Rate Submission / p. 6
Submissions on the ETS Rate / Attachment 2 / p. 5

Preamble

In the 2014 Elenchus Report, the key parameters of Elenchus' recommended methodology for allocating costs to ETS service (the May 2014 Methodology) were as follows:

- Allocate dedicated assets used to serve export customers and related expenses to the export customer class;
- Shared Network OM&A expenses are allocated to export customers, but no Shared Network Asset related costs are allocated to export customers;
- Allocate OM&A expenses related to the use of shared assets to export customers using composite assets as allocator; and
- Utilize the 12 Coincident Peak (CP) as the allocator in apportioning assets between domestic and export customers in order to develop composite allocators to allocate shared expenses.

The 2021 Elenchus report presents cost-based methodologies that build on the principles of the May 2014 Methodology by allocating Shared Network Asset-related costs to export customers. Footnote 1 on page 5 of the report states that "Asset-related costs include depreciation, interest, ROE, and taxes."

In Section 1.2 on page 5 of the report, CRA states that:

Appendix A summarizes the 2020 rates in each jurisdiction for Firm and Non-Firm Point-to-Point (PTP) Export Transmission Services (ETS). Also shown for comparative purposes is the approved export tariff for Ontario. The rates are reported on an annual, monthly, weekly, and daily basis, consistent with how they appear in the relevant tariff.

Question(s)

Please answer the following for each of the eight jurisdictions summarized in the CRA report.

- a) Does the methodology allocate dedicated assets used to serve export customers and related expenses to the export customer class?
- b) Does the methodology allocate shared network OM&A expenses to export customers?
- c) Does the methodology allocate OM&A expenses related to the use of shared assets to export customers using composite assets as allocator?
- d) Does the methodology use the 12 coincident peaks as the allocator in apportioning assets between domestic and export customers in order to develop composite allocators to allocate shared expenses?
- e) Does the methodology allocate shared network asset costs including depreciation, interest, ROE, and taxes?
- f) Is the methodology a cost-based methodology? If not, please explain how the methodology differs from a cost-based methodology.
- g) Please explain whether and on what basis the methodology is comparable with the methodologies identified by Elenchus.
- h) For those jurisdictions that use any of the May 2014 Methodology key parameters, specify the amount of the allocation separately to domestic and export customers and contribution to the ETS rate.

Staff-20

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 4

Preamble

On page 4 of the report, CRA states that:

The regulatory rationale for rate design differs across markets studied. For certain established U.S. jurisdictions including ISO-NE, NYISO, PJM, and MISO, the OATT and rates currently in place for transmission service, including service for exports, appear to have developed from principles affirmed by the FERC Order No. 888-A.4 [sic] Current ETS rate design was “inherited” from the former power pools that were in place in those regions prior to ISO/RTO implementation. These rates are designed to recover the total annual transmission revenue requirement (ATRR) over the forecasted annual billing units (12 Coincident Peak (CP) or zonal peak demand, or another basis). In these cases, the rates for export service are designed to recover total ATRR and there is no specific rate design step applied to encourage a particular export market result. [Citation omitted.]

Question(s)

- a) Please explain what the “principles affirmed by the FERC Order No. 888-A” are?
- b) Please explain what is meant by “rates... appear to have developed from principles affirmed by the FERC Order No. 888-A”?
- c) Please explain how the response to part b) relates to the “former power pools that were in place in those regions prior to ISO/RTO implementation”?
- d) Please explain what is included in the “total annual transmission revenue requirement (ATRR)”?
- e) Please explain how the ATRR, as described in response to part d) compares to the May 2014 Methodology and additional methodologies included in the 2021 Elenchus report?
- f) Please explain in more detail the sentence “These rates are designed to recover the total annual transmission revenue requirement (ATRR) over the forecasted annual billing units (12 Coincident Peak (CP) or zonal peak demand, or another basis).” If possible, please provide an equation(s) and sample calculation(s).

- g) Please provide the ATRR for each of the transmitters covered by the CRA report and the amount of the ATRR recovered by their ETS rates for the most recent year available.

Staff-21

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 5

Preamble

On page 5 of the report, CRA states the rationale for adding CAISO to the study as being “CAISO initiated operations of the Western Energy Imbalance Market (WEIM) in 2014 which provides the opportunity to make valuable observations as to how export pricing within an imbalance market could operate.”

Question(s)

- a) Please explain what an “imbalance market” is, and how it relates to Ontario.
- b) Please summarize CRA’s observations as to how export pricing within an imbalance market could operate, and comment on the value of these observations in the Ontario context.

Staff-22

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 5

Preamble

On page 5 of the report, CRA states:

...demand-based rates range from \$8.69/kW-year (SPP) to \$163.62/kW-year (ISO-NE). Energy-based rates, on the other hand, range from \$1.85/MWh (Ontario) to \$15.84/MWh (CAISO).

Question(s)

- a) Please explain what are demand-based rates? Please confirm which of the eight jurisdictions have demand-based rates.
- b) Please explain what are energy-based rates? Please confirm which of the eight jurisdictions have energy-based rates.

- c) Please explain in detail whether it is appropriate to compare the Ontario ETS rate to demand-based rates, or to energy-based rates, or both, and why?

Staff-23

Ref.: Submissions on the ETS Rate / Attachment 2 / pp. 5-6

Preamble

On pages 5-6 of the report, CRA states that:

Table 3 presents rates in the currency and rate format (capacity or energy) as they appear in posted tariffs; Table 4 presents the same but all in Canadian dollars; and Table 5 presents the rates in Canadian dollars and in an energy-based format (assuming a 100% load factor conversion) to allow for comparability to the current Ontario ETS rate of \$1.85/MWh.

Question(s)

- a) Please explain how the rates in Table 4 were converted to the rates in Table 5. Please provide equation(s) and a sample calculation, if possible.
- b) Please explain what is meant by “(assuming a 100% load factor conversion)”.
- c) Please comment on the reasonableness of the 100% load factor assumption.
- d) Please comment on what the rates in Table 5 would be if the load factor were lower. Please provide a sample calculation, if possible.
- e) Please provide the Ontario load factor. Please provide the rates in Table 5 if the load factor were the same as the Ontario load factor.
- f) Please explain why the rates in Table 5 are comparable to the Ontario ETS rate.

Staff-24

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 6

Question(s)

Table 1 shows rates for both Firm and Non-Firm transmission service for several jurisdictions. For each of those jurisdictions:

- a) Please explain the difference between Firm and Non-Firm transmission service specifically for that jurisdiction.
- b) Are either of the Firm or Non-Firm rates comparable to Ontario's ETS? Please explain why, or why not.

Staff-25

Ref.: Submissions on the ETS Rate / Attachment 2 / pp. 6-7

Question(s)

- a) Please explain the difference between Table 1 and Table 2.
- b) Please provide a version of Table 2 using the January 2021 exchange rate of C\$1.0 = US \$0.79.
- c) Please compare the table produced in response to part b) with Table 1.
- d) Please specify which years since 2012, that the export rates have been adjusted in domestic currency for the jurisdictions in Table 2 including the amount, reason, and methodology.

Staff-26

Ref.: Submissions on the ETS Rate / Attachment 2 / pp. 6 and 13

Question(s)

- a) Please explain the difference between Table 1 and Table 3.
- b) Comparing the Trans-Energie rows between Table 1 and Table 3, why do two of the values change between Table 1 and Table 3, and the others do not?
- c) Please confirm the accuracy of Table 1 and Table 3 or provide a corrected

version of the table(s), if required.

Staff-27

Ref.: Submissions on the ETS Rate / Attachment 2 / pp. 6 and 13

Question(s)

- a) Referring to the format of Table 1 and Table 3, please explain why the Ontario ETS rate, as well as the Alberta rate, and the Trans-Energie Non-Firm rate, are presented in a column that merges the “Hourly On-Peak Charge \$/MWh” and “Hourly Off-Peak Charge \$/MWh” columns?
- b) Are the Ontario ETS rate, the Alberta rate, and the Trans-Energie Non-Firm rate comparable, i.e., are they based on consistent methodologies? Please explain why, or why not.
- c) For the jurisdictions (MISO, PJM, SPP and CAISO) that have entries in one or both of the “Hourly On-Peak Charge \$/MWh” or “Hourly Off-Peak Charge \$/MWh” columns, please explain whether and on what basis one or both of these rates are comparable with the Ontario ETS rate.

Staff-28

Ref.: Submissions on the ETS Rate / Attachment 2

Question(s)

- a) Please explain in detail whether the May 2014 Methodology and/or the additional methodologies identified in the 2021 Elenchus report are consistent with those in neighbouring markets.
- b) In CRA’s view, of the rates shown in Table 1, which rate is the best comparator for the Ontario ETS rate? Please explain why, in detail.
- c) For the jurisdictions included in CRA report, please explain what charges wheel-through transactions are subject to?

Staff-29

Ref.: EB-2019-0082 Decision and Order / April 23, 2020 / p. 180

Preamble

The OEB's 2019 Decision and Order states that:

The OEB would also be assisted by an updated jurisdictional review that provides the rates in other jurisdictions, rationale behind those rates and market implications.

Question(s)

- a) Please explain the market implications of the rates contained in the jurisdictional review.

Staff-30

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 8

Preamble

Page 8 of the Charles River Associates (CRA) report states:

ISO-NE and NYISO have entered into a reciprocal agreement, in the form of a memorandum of understanding (MOU), that has adopted an exception to the rule such that the Through or Out Service (TOUT) rate is reduced to zero for any TOUT transaction that goes through or out of the New England Control Area and has the New England/New York Control Area boundary as its Point of Delivery.

. Question(s)

- a) Please clarify if this applies only to wheel-through transactions.
- b) Please clarify if this applies for all imports and exports between ISO-NE and NYISO.

Staff-31

Ref.: Submissions on the ETS Rate / Attachment 2 / p. 9

Preamble

The CRA reports states that the Border Rate does not apply to any point-to-point transmission service or network service to serve load in the Midcontinent Independent System Operator, Inc. (MISO). This reciprocal arrangement falls under the Joint Agreement between MISO and PJM.

Question(s)

- a) Please clarify if this applies only to wheel-through transactions.
- b) Please clarify if this applies for all imports and exports between MISO and PJM.

Staff-32

Ref.: Submissions on the ETS Rate / Attachment 2 / Appendix B / pp. 5-9

Preamble

Appendix B provides Rate Adders including Ancillary Services and Other Charges Applicable to ETS Transactions.

Question(s)

- a) Please provide IESO rate adders including uplift charges, ancillary services, and other charges applicable to ETS transactions.

Staff-33

Ref.: EB-2012-0031 / Exhibit H1 / Tab 5 / Schedule 2 / Appendix B / p. 24

Preamble

Table 2 provides the export charge, uplift/administration costs, and all-in costs for 2011 from-to jurisdictions included in the 2012 ETS Tariff Study.

Question(s)

- a) Please provide a similar table containing data relevant to the 2021 jurisdictional review.

Staff-34

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 2

Preamble

The IESO states that intertie traders exporting energy from Ontario pay the Intertie Congestion Price (ICP), a dynamic charge set based on its market value to traders, administered through the IESO-administered market. ICP revenues are collected entirely from intertie importers and exporters for the purpose of offsetting transmission service charges paid for all transmission customers. Since 2017, an average of \$160 million per year of ICP revenue has been returned in reduced transmission costs, the majority of which has gone to domestic consumers.

Question(s)

- a) Please explain when the IESO established the ICP, and on what basis? Was this before or after the ETS was established?
- b) In the IESO's view, is the purpose of the ICP the same as the purpose of the ETS? Please explain whether and how the ETS and the ICP address the same or different issues.
- c) If the ICP was established after the ETS, and if the purpose of the ICP is the same as the purpose of the ETS, why did the IESO establish the ICP? Please explain.
- d) Are there incremental costs that arise specifically due to managing congestion, as opposed to costs that arise from export transactions?
- e) Explain and quantify how the ICP revenue has been distributed. Is it different from other jurisdictions?
- f) Which of the adjoining jurisdictions (Manitoba, Quebec, New York, Minnesota, and Michigan) have at least some (i.e., non-zero) regulated transmission network tariff charge applicable to all exports out of the jurisdiction?

- g) Please clarify if the ICP charges are analogous to other and ancillary charges in other jurisdictions and/or are uplift charges analogous to other and ancillary charges in other jurisdictions?
- h) Please explain how ICP supports open access.
- i) In the IESO's view, what would be the advantage for Ontario ratepayers and export transmission service users of relying on ICP in lieu of an ETS rate to charge for export service?
- j) In the IESO's view, what would be the disadvantage for Ontario ratepayers and export transmission service users of relying on ICP in lieu of an ETS rate to charge for export service?
- k) In the IESO's view, would relying on ICP (in lieu of the ETS rate) present risk (e.g., financial risk) to Ontario ratepayers and to those who use the transmission system in Ontario to deliver electricity to outside of Ontario? Does the IESO consider this risk appropriate? Please explain.
- l) What financial, system reliability and operability protections, if any, exist now and/or ought to exist for Ontario ratepayers and export transmission service users if Ontario were to rely on ICP in lieu of an ETS rate?

Staff-35

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 2

Preamble

The IESO states that due to market design changes, ICP revenues are now distributed on a semi-annual basis and the Transmission Rights (TR) market has increased the amount of revenues available to be disbursed and changed the proportion of the distribution to return almost all available funds to domestic consumers.

Question(s)

- a) Please provide the amount of ICP revenue returned on an annual basis to domestic customers. Are there any applicable settlement charges associated with the ICP that is returned to domestic customers?
- b) Please explain in detail how the ICP revenue is returned. Is it through the Global Adjustment, to transmitters, directly to domestic consumers or through some other means?
- c) Please provide the frequency that the ICP revenue is returned and the basis for that frequency. Is the basis a practice or prescribed? If it is prescribed,

- where is it prescribed and by whom? What is the process for changing the frequency?
- d) Please provide the amount of transmission rights clearing account (TRCA) disbursements returned on an annual basis to domestic customers. Are there any applicable settlement charges associated with the TRCA disbursements that are returned to domestic customers?
 - e) Please explain in detail how TRCA disbursements are returned. Is it through the Global Adjustment, to transmitters, directly to domestic consumers or through some other means?
 - f) Please provide the frequency that TRCA disbursements are returned and the basis for that frequency. Is the basis a practice or prescribed? If it is prescribed, where is it prescribed and by whom? What is the process for changing the frequency?
 - g) Does the IESO consider TRCA disbursements to domestic customers cross-subsidization? If not, why not?
 - h) Please provide Ontario ICP revenue from 2012 to 2021.
 - i) Please provide forecast Ontario ICP revenue from 2022 to 2027.
 - j) Please provide Ontario TR Auctions Revenue from 2012 to 2021.
 - k) Please provide forecast Ontario TR Auctions Revenue from 2022 to 2027.
 - l) Please provide Ontario TRCA Disbursements from 2012 to 2021.
 - m) Please provide forecast Ontario TRCA Disbursements from 2022 to 2027.
 - n) Please provide Hydro One's export transmission load forecast and ETS revenue forecast from 2012 to 2021 and Hydro One's actual export transmission load and actual ETS revenue from 2012 to 2021.
 - o) Please provide for each Ontario transmitter forecast annual load, ICP revenues and TRCA disbursements from 2022 to 2027.
 - p) Please explain what would happen if the ICP forecast is not met for Ontario transmitters if the ETS is eliminated. Would there be a revenue reconciliation process for Ontario transmitters and how it would work? Will variance accounts be required?

Staff-36

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 3

Preamble

The IESO states that the ICP and ETS have an offsetting relationship such that an increase in the ETS will lead to a proportionate decrease in the ICP.

Question(s)

- a) Please confirm that this is a dollar-for-dollar proportional relationship. If not please clarify the increase in the ETS and the decrease in the ICP.

Staff-37

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 7

Preamble

The IESO states that its planning assessments do consider maintaining export capability where required to ensure system reliability and operability, but do not specifically consider competitive exporter activity. On this basis, competitive exports are not a key driver of investment cost to the transmission system in Ontario.

Question(s)

- a) Please confirm that system reliability and operability will be maintained by the IESO regardless of ETS rate.
- b) If the ETS is reduced to \$0/MWh, what assurances are there that the ICP would be at a minimum of \$1.85/MWh for every hour at every intertie in Ontario?
- c) In the IESO's view, what protections exist or should be put in place to ensure that any reduction in the ETS rate is received by Ontario consumers and not received by exporters?
- d) Please confirm that through a TR Auction the successful TR holder is entitled to all the ICP revenue for an intertie for the specific period and quantity of the TR. If yes, please clarify how ICP revenue is returned to domestic consumers and the amount. If not, please explain otherwise.

Staff-38

Ref.: Submissions on the ETS Rate / Attachment 3 / Table 1 / p. 8
Submissions on the ETS Rate / Attachment 3 / p. 3

Preamble

The IESO states that prior analysis demonstrates that in one case increasing the ETS rate from \$0 to \$5.80/MWh would cause a 50% reduction in export volumes.

The maximum increase from \$1.85 to \$6.54/MWh proposed by Elenchus is an increase in the ETS rate of \$4.69/MWh. The proposed increase is calculated by OEB staff, at existing export volumes to generate \$134 million in annual ETS revenue which is an increase of about \$96 million per year.

Table 1 indicates congestion rents have declined annually since 2017 by \$109 million, from \$208 million in 2017 to \$99 million in 2020. The ETS revenue for 2020 is \$38 million for a combined ETS revenue and congestion rent of \$137 million in 2020. The 2021 Elenchus report proposed ETS rate of \$6.54/MWh would increase the ETS revenue from \$38 million in 2020 to about \$134 million based on existing volumes.

Question(s)

- a) Please explain how the \$38 million in ETS revenue would be recovered in future if the ETS is eliminated.
- b) Please explain and quantify any impacts other than a \$3 million (\$137 million minus \$134 million) annual difference between the combined 2020 ETS revenue and ICP revenue in Table 1 and the 2021 Elenchus Report proposed ETS revenue.
- c) Please provide a forecast of the annual ICP and TRCA disbursements for the next five years including a detailed analysis of any changes based on the ETS rate remaining at a fixed charge of \$1.85/MWh.
- d) Please provide a forecast of the annual ICP and TRCA disbursements for the next five years including a detailed analysis of any changes based on the ETS rate increasing to a fixed charge of \$6.54/MWh.
- e) Please provide a forecast of the annual ICP and TRCA disbursements for the next five years including a detailed analysis of any changes based on the ETS rate decreasing to a fixed charge of \$0.00/MWh.

- f) Please contrast how the dynamic nature of the ICP applied on some exports, compared to the fixed ETS charge applied on all exports regardless of market conditions, assures transmission customers will benefit financially.
- g) In the IESO's view, does this volatility in ICP revenue present risk to Ontario ratepayers and exporters? Please explain.
- h) How would the ETS annual revenue for Ontario transmitters be guaranteed if exports were uneconomic?
- i) As proposed by the 2021 Elenchus Report methodology the ETS rate should apply not only to Hydro One transmission assets but to all Ontario transmitters' transmission assets. Please explain the additional impact on the ICP of this proposal including if the ETS is set to zero.

Staff-39

Ref.: Submissions on the ETS Rate / Attachment 3 / Table 1 / p. 8

Preamble

Table 1 shows avoided system costs varying from \$180 million to \$153 million from 2017 to 2020. Footnote 13 indicates an avoided nuclear and renewable resource curtailment, equal to 14TWh, 12TWh, 13TWh and 14TWh for 2017 to 2020 respectively.

Question(s)

- a) Please provide the annually avoided system costs and energy separately for each of avoided nuclear maneuvering, hydroelectric water spillage and renewable resource curtailment from 2017 to 2020.

Staff-40

Ref.: Submissions on the ETS Rate / Attachment 3 / Table 1
Submissions on the ETS Rate / Attachment 3 / pp. 8-9
Submissions on the ETS Rate / Attachment 3 / pp. 8-9

Preamble

The IESO typically collected between \$34 and 38 million per year through ETS tariffs and \$38 to \$52 million per year through uplift charges from 2017 to 2020. In the IESO examples on page 12 the uplift charges are shown as \$1/MWh.

Question(s)

- a) Please confirm if uplifts are a fixed charge applied on all exports regardless of market conditions and the uplift rates. If not, please confirm what export activities uplift charges apply to and the rates.
- b) Please confirm if uplifts are a fixed charge applied on all imports regardless of market conditions and the uplift rates. If not, please confirm what import activities uplift charges apply to and the rates.
- c) Please provide the annual revenue and volume of export uplift charges and import uplift charges since 2017.

Staff-41

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 9

Preamble

The IESO states that The ICP is set hourly based on competitive trader bids indicating how much they would be willing to pay to export over the intertie for a specific hour.

Question(s)

- a) Please confirm that the ICP is determined in the market schedule whereas the actual schedule of exports and imports is determined in the dispatch schedule. Please describe how these processes work.
- b) Please confirm that intertie congestion in the market schedule may not be the same as intertie congestion in the dispatch schedule. Please further confirm that the traders pay the ICP only for exports and imports that actually flow in the dispatch schedule. If this statement is not accurate, please provide an accurate version. Please elaborate on the circumstances that might give rise to a situation where there is congestion in one schedule but not in the other schedule.

- c) Please provide data on the degree of correlation between hours that are congested in the market schedule and hours that are congested in the dispatch schedule.
- d) Is it possible for an intertie to be congested in the dispatch schedule even if it is not congested in the market schedule? If this scenario can arise, please explain the implications for ICP payment flows.
- e) Please describe the methods used to manage intertie congestion in the markets with which Ontario does its electricity trading

Staff-42

Ref.: Submissions on the ETS Rate / Attachment 3 / pp. 9 -10

Preamble

The IESO states that an important feature of the ICP is that it is dynamic and automatically adjusts with the value of the intertie capacity, which itself is dependent upon hourly market conditions. If hourly wholesale market prices are expected to be lower in Ontario relative to its neighbouring jurisdictions, traders will compete against one another by bidding up the price for intertie access relative to expected profit conditions. Increased competition and willingness-to-pay to flow the electricity out of Ontario will increase the ICP for which exports are charged.

Question(s)

- a) Please describe the methods used to manage intertie congestion in the markets with which Ontario does its electricity trading.
- b) Do these markets use the economic methodology of intertie congestion pricing that the IESO uses for Ontario?
- c) If not please explain, to the extent possible, why not.

Staff-43

Ref.: Submissions on the ETS Rate / Attachment 3 / pp. 9 -10

Preamble

The IESO states that the ICP is set hourly based on competitive trader bids indicating how much they would be willing to pay to export over the intertie for a specific hour. The highest bids are accepted to export over the intertie during the given hour. For example, the ICP on the intertie to Michigan (where there has historically been high demand to export) averaged \$19/MWh in 2017 while annual prices on the Minnesota and New York interties are in the range of \$7-9/MWh.

Question(s)

- a) Please provide the number of hours annually that the ICP was collected and the annual ICP revenue from 2017 to 2020 for each of the Michigan, Minnesota, and New York interties.
- b) Please explain the historical variability and provide a graph showing the monthly variability in the ICP at each intertie and for each jurisdiction.

Staff-44

Ref.: Submissions on the ETS Rate / Attachment 3 / Table 2 / p. 10

Preamble

The IESO states that TRs are a financial contract that entitle their holder to a share of the ICP revenue. The IESO pays the TR holders from the ICP revenues. Revenues from the TR auction plus any residual ICP revenues after payments to TR holders are disbursed, subject to a TRCA balance threshold, to domestic consumers and exporters to offset transmission costs. As shown in Table 2, approximately \$118 million was paid out in disbursements in 2020.

The footnote to Table 2 states that congestion rents apply to exports and imports.

Question(s)

- a) Please clarify the share and amount of the ICP provided to TR holders.
- b) Please confirm that imports are subject to congestion rents and explain how these rents are calculated.
- c) Please provide the amount of congestion rents received from imports.
- d) Please clarify if uplift charges apply only to exports and if they apply to all exports. If not, please confirm what transactions uplifts charges apply to and the volume.
- e) Please specify the times and locations where ICP revenue has been or would be zero for imports and exports.

Staff-45

Ref.: Submissions on the ETS Rate / Attachment 3 / Table 2
Submissions on the ETS Rate / Attachment 3 / pp. 10-11

Preamble

The IESO states that it pays the TR holders from the ICP revenues. Revenues from the TR auction plus any residual ICP revenues after payments to TR holders are disbursed, subject to a TRCA balance threshold, to domestic consumers and exporters to offset transmission costs. As shown in Table 2, TRCA disbursements have steadily declined since 2018 to approximately \$118 million in 2020.

The IESO has stated the TRCA methodology effective 2021 will increase TRCA funds to be distributed to domestic load.

Question(s)

- a) Please confirm if annual payments to TR holders have exceeded congestion rents received from the market. If, so please explain why and provide the year(s), amount, and reason. Also, clarify where the revenue is obtained from to provide excess TR payments.
- b) Please explain why the annual congestion rents in Table 2 are higher than the annual payments to TR holders. Clarify what happens to the excess amount of congestion rents.
- c) Please explain the changes in TRCA methodology that will increase disbursements to domestic loads.

- d) Please define domestic load.
- e) Please provide the 2021 actual and 5-year forecast TRCA disbursement to domestic loads.
- f) Please confirm that ICP revenues are sufficient to cover any shortfall between the revenue that the IESO receives from TR auctions and the payments the IESO is obligated to make to TR holders.
- g) In the IESO's view, what are the advantages and disadvantages for Ontario ratepayers and export transmission service users of continuing with financial transmission rights?
- h) In the IESO's view, what are the advantages and disadvantages for Ontario ratepayers and export transmission service users of discontinuing financial transmission rights?
- i) In the IESO's view, what would be the disadvantage of eliminating TR auctions? Would this reduce ICP by an equivalent amount?

Staff-46

Ref.: Submissions on the ETS Rate / Attachment 3 / p. 12

Preamble

The IESO states it expects that any increase in revenue resulting from a higher ETS would be offset by an equivalent reduction in revenue from the ICP, which in turn will decrease the amount that is disbursed from the TRCA to Ontario consumers. The ICP and ETS have an offsetting relationship such that an increase in the ETS will lead to a proportionate decrease in the ICP. This offsetting relationship means that, assuming the quantity of exports remains constant, the overall value that Ontario ratepayers derive from exports would remain unchanged even if the ETS rate is increased.

The 2021 Elenchus Report presents three ETS rate options based on different cost allocation methodologies (\$6.54/MWh, \$3.66/MWh, and \$5.42/MWh respectively). Each ETS rate option represents a significant increase over the approved 2020 ETS rate of \$1.85/MWh.

Question(s)

- a) Please clarify if the ICP is fully reimbursed to TR holders. What is the percentage of ICP revenue that is provided to TR holders?
- b) If the ICP is fully reimbursed to TR holders, how does a reduction in ICP revenue decrease the amount of disbursements from the TRCA paid to Ontario consumers?
- c) Please confirm that the increase in revenue from a higher ETS would result in a decrease by an equal amount in the UTR collected from transmission customers.
- d) Please provide the number of hours, volume, and revenue amount of ICP collected annually since 2017 at each of the interties with Michigan, Minnesota, and New York when the ICP was equal to or greater than \$4.69/MWh (\$6.54/MWh minus \$1.85/MWh).
- e) Please provide the number of hours, volume, and revenue amount of ICP collected annually since 2017 at each of the interties with Michigan, Minnesota, and New York when the ICP was equal to or greater than \$1.81/MWh (\$3.66/MWh minus \$1.85/MWh).
- f) Please provide the number of hours, volume, and revenue amount of ICP collected annually since 2017 at each of the interties with Michigan, Minnesota, and New York when the ICP was equal to or greater than \$3.53/MWh (\$5.42/MWh minus \$1.89/MWh).

Staff-47

Ref.: Submissions on the ETS Rate / Attachment 3 / p.13

Preamble

The IESO states that any increase in the ETS rate will reduce the value of interties, leading to less system flexibility to reliability manage the grid and higher costs for Ontario consumers.

Question(s)

- a) Please explain how a decrease in the ETS rate which could increase the transmission rates that Ontario consumers pay, would not be considered as benefitting customers in neighbouring jurisdictions at the expense of Ontario consumers.