Hydro One Networks Inc.
7th Floor, South Tower
483 Bay Street
Toronto, Ontario M5G 2P5
www.HydroOne.com

Tel: (416) 345-5680
Cell: (416) 568-5534
frank.dandrea@HydroOne.com

Frank D'Andrea
Vice President
Regulatory Affairs & Chief Risk Officer

November 6, 2017

BY COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli:

EB-2016-0003 – Notice of Proposal to Amend a Code – Hydro One Networks Inc. Submission

On September 21, 2017 the Ontario Energy Board ("the Board") issued a Notice of Proposal ("the Notice") to amend the Transmission System Code ("TSC") and the Distribution System Code ("DSC"). Hydro Networks Inc. ("Hydro One") is pleased to provide its comments on the proposed TSC and DSC amendments.

Hydro One supports the Board's proposed changes with respect to sharing the cost responsibility for transmission connection investments between the overall transmission system and connecting customers using the proportional benefit approach. We also support the amendments which address the cost allocation between host distributors, embedded distributors and large load customers. We agree with the move to better align the two codes where appropriate to ensure more equitable treatment of all participants in financial transactions and operational situations that involve both the transmitter, distributors and customers. However, we also believe that the codes must recognize the differences inherent in the two systems and their customers, with rules appropriate to each. Finally, as the Board acknowledged on page 10 of its Notice, we also seek the optimal balance between precision and administrative burden resulting from these proposed amendments.

Hydro One believes that the proposed amendments represent a significant change to the status quo and we appreciate the additional time the Board provided to ensure a thorough review of the proposed amendments. We have considered the proposals very carefully, leading to a detailed submission that we hope is helpful to the Board in finalizing the changes to the TSC and DSC.

Hydro One would like to thank the Board for holding this consultation and should another working group be convened to address any issues arising from the comments received on the Notice, Hydro One would be pleased to participate.

Sincerely,

ORIGINAL SIGNED BY FRANK D'ANDREA

Frank D'Andrea

EB-2016-0003: PROPOSED AMENDMENTS
TO THE TRANSMISSION SYSTEM CODE AND DISTRIBUTION SYSTEM CODE:
REGIONAL PLANNING & COST ALLOCATION

HYDRO ONE COMMENTS

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1.0 GENERAL COMMENTS

Hydro One Networks Inc. ("Hydro One") appreciates the opportunity to comment on the Ontario Energy Board's ("Board") Notice of Proposed Amendments ("Notice") to the Transmission System Code ("TSC") and the Distribution System Code ("DSC"). Hydro One believes that changes to the TSC and DSC addressing the policy questions raised by its leave to construct application (Supply to Essex Country Transmission Reinforcement or "SECTR")[1] will result in more consistent and equitable allocation of costs for this and other such projects in the future. Hydro One particularly supports the proportional benefit approach in assigning cost responsibility for transmission investments and the move to allocate the cost of transmission connection investments between host distributors, embedded distributors and large customers based on their relative capacity needs that drove the investment.

Noting that the functions of distribution systems are evolving to become more similar to those of transmission systems, the Ontario Energy Board ("Board") has proposed additional changes for the purpose of increasing consistency between the two codes. Hydro One supports increasing consistency between them, but only where needed to ensure smooth coordination between the two systems. Proposed changes which Hydro One believes will be helpful are the suggested alignment between the two codes in such areas as the customer connection horizon for *transmission investments*, bypass compensation and the cost treatment of generators, as well as options to help distributors mitigate the impact of these investments on rates. Where transmitters and distributors continue to retain unique characteristics, however, these must be acknowledged with rules appropriate to each. Hydro One, believes, for example, that aligning the customer connection horizon for *distribution* expansions with that for transmission investments when there is no direct linkage between the two is unnecessary and could create some operational complications, as well as greater administrative burden for distributors.

If the Board decides to convene a second working group for this consultation, Hydro One would be pleased to participate.

1.1 Organization of this Submission

Following a comment on the principles guiding the development of the Board's proposals in Section 2.0, Sections 3.0 and 4.0 of this submission discuss the details of the Board's proposed code changes for transmitters and distributors, respectively. Hydro One also suggests alternative wording where we believe this will add value. Finally, Attachment A provides illustrative examples of cost allocation results performed according to one possible interpretation of the currently proposed wording of Section 3.2.4A of the DSC and two suggested alternative approaches.

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[1] EB-2013-0421, submitted January 22, 2014.

2.0 COMMENTS ON GUIDING PRINCIPLES

Hydro One agrees with the Board's proposed principles for the allocation of costs associated with transmission and distribution investments:

- Optimal infrastructure solution
- Beneficiary pays
- Open, transparent and inclusive

Hydro One suggests that "administratively efficient" also be a consideration in assessing the proposed code amendments. During its work on this issue, Hydro One has observed that greater precision can create greater complexity in processes, so we concur with the Board's statement in page 10 of its Notice, that the final cost allocation methodology should "strike a reasonable balance between precision and administrative burden." We believe that this principle warrants inclusion in the list above, or as part of the third principle, as it will reinforce this thinking when evaluating the proposed code amendments.

3.0 TRANSMISSION COMMENTS

3.1 Definition of 'Proportional Benefit' (TSC S. 2.0.50A)

Hydro One supports the proposed proportional benefit approach, as it addresses the need to ensure fairness and maintain consistency with the beneficiary pays principle in assigning cost responsibility for transmission expansions that simultaneously provide benefit to both connecting customers and the overall transmission system. Hydro One believes the proportional benefit approach will facilitate regional planning by helping to make optimal infrastructure solutions more affordable for connecting customers.

For additional clarity, Hydro One believes it would be helpful to include in the TSC a formal definition of the term "proportional benefit" and suggests the following for the Board's consideration:

> 2.0.50A "proportional benefit" means, in relation to a single integrated optimal solution that addresses the needs of (i.e., provides benefit to) both connecting customers and the transmission system overall, the degree of benefit attributable to the customers relative to all ratepayers, as calculated by dividing the cost of the minimum design to address each need separately by the sum of those costs;

3.2 Mix of Load and Generator Customers (TSC S. 6.3.16)

The term "proportional benefit" currently appears in both proposed sections 6.3.16 and 6.3.18A. Hydro One submits that this term does not belong in section 6.3.16, as the concept of proportional benefit does not apply to the attribution of costs between load and generator customers, where the costs are attributed based on relative capacities and/or line lengths, as opposed to avoided investments. Hydro One therefore suggests that section 6.3.16 be modified as follows:

> 6.3.16 For a new or modified transmitter-owned connection facility that will serve a mix of load customers and generator customers, a transmitter shall attribute the cost of the new connection facility or modification to those customers based on ~~their proportional benefit, which the transmitter shall determine by considering~~ such factors as the rated peak output of each generation facility, the non-coincident incremental peak load requirement of each load customer, and the length of line used by each customer in proportion to the length of line being shared by the customers.

3.3 Proportional Benefits Approach (TSC S. 6.3.18A)

In the proposed section 6.3.18A pertaining to the proportional benefit approach, only load customers are considered, which appears to be inconsistent with the Board's desire to better ensure that all transmission customers (whether load or generator customers) are treated the same, and that all beneficiaries pay their fair share. Hydro One believes that the exclusion of generator customers from the proportional benefit approach will result in unequal customer treatment and potential cross-subsidization.[2]

Furthermore, Hydro One believes it is important to clarify that the process of determining the cost to be borne by all ratepayers (i.e., pool costs) vs. the cost to be borne by connecting customers (i.e., non-pool costs) via the proportional benefit approach is a step that must necessarily precede the exercise of attributing the non-pool costs to individual customers.

Hydro One therefore suggests that the proposed section 6.3.18A be modified as follows (new text shown in italics):

> 6.3.18A Where one or more customers triggers the need for a new or modified transmitter-owned connection facility and the IESO undertakes an assessment at the request of a transmitter that confirms that the new or modified connection facility will also address a broader ~~network~~ system need, the transmitter shall determine the ~~proportional benefit between the triggering customer(s) and the network pool~~ *cost that is attributable collectively to triggering customers using the proportional benefit approach*. ~~In doing so, the transmitter shall attribute the costs accordingly. The transmitter shall determine the capital contribution to be made by the triggering load customer(s) based on that proportional benefit and each load customer's non-coincident incremental peak load requirements, as reasonably projected by the load forecasts provided by each load customer.~~ *The transmitter shall then attribute this cost to individual triggering customers in accordance with sections 6.3.12, 6.3.13, 6.3.14, 6.3.15 and 6.3.16*.

[2] The suggested modifications to the proposed section 6.3.18B in section 3.4 of this submission are intended to also address this concern.

3.4 Requirement for Board Approval (TSC S. 6.3.18B)

On the issue of capital contributions from distribution customers for upstream transmission costs, the Board, on page 10 of its Notice of Proposed Amendments, recognized the importance of striking a balance between precision and administrative burden. In the context of the proportional benefit approach, Hydro One is concerned that the proposed requirement to seek Board approval in every circumstance where the proportional benefit approach is used may not be striking the optimal balance.

Hydro One believes that the proposed requirement to seek Board approval would introduce regulatory uncertainty, as customers would not know the final cost attribution until the approval process is complete—the timeline for which can be uncertain. As well, in terms of process, it is unclear what regulatory mechanisms, aside from a leave to construct ("LTC") application, would be available for transmitters to rely upon to obtain such approvals in a timely manner, especially in light of the Board's move to a 5-year re-basing cycle for transmission rate filings. Recognizing that in each instance where the proportional benefit approach is used, the Independent Electricity System Operator ("IESO") is already required to confirm the system need, it is Hydro One's view that a better balance may be achieved by relying on the same criteria that is used to identify projects that are subject to LTC approval to ensure that only those projects that rise to the level of requiring LTC approval would trigger a Board review on proportional benefit.

Hydro One suggests therefore that the proposed section 6.3.18B be modified as follows (new text shown in italics):

> 6.3.18B Where section 6.3.18A applies *in respect of a new or modified connection facility that is subject to leave to construct approval by the Board*, the transmitter shall apply to the Board for approval of the attribution of costs between the triggering ~~load~~ customer(s) and the ~~network~~ pool. Where the Board approves a different attribution of costs, the transmitter shall recalculate the capital contribution to be made by the triggering ~~load~~ customer(s).

3.5 Network Pool vs. Connection Pool (TSC S. 6.3.18A & 6.3.18B)

Another area where administrative efficiency should, in Hydro One's view, be better balanced with precision is in the alignment of rate pools with asset classifications. Both proposed sections 6.3.18A and 6.3.18B contemplate that the costs pertaining to system benefits should be attributed exclusively to the network pool. Hydro One submits that the implementation challenges resulting from attempting to perfectly align the assignment of costs to rate pools with asset classifications (i.e., the physical function of the asset) would not be justified by any perceived purity in pool allocations. Administratively, it would be extremely difficult to track the specific capital amounts relating to every instance that the proportional benefit approach is applied. Doing so would require manual tracking of this information indefinitely.

Alternatively, for a new or modified connection facility, if the proportional benefit attributed to the system were allocated to the connection pool, such costs would be automatically tracked by the existing fixed asset financial systems since they would simply be part of the asset value that is not paid for through capital contributions from connecting customers. This approach would be similar to the way end-of-life replacement costs are allocated to the pool that aligns with the asset classification of the replaced asset.

Given that approx. 92% of all transmission customers pay both network and line connection pool charges, Hydro One submits that the administrative burden of managing a perfect alignment of rate pools and asset classifications would yield little in return, and may result in significant confusion over pool allocations.[3]

3.6 Interest on Installment Payments (TSC S. 6.3.19)

The proposed section 6.3.19 states that "Where a distributor provides the capital contribution in installments, the transmitter shall charge interest on the unpaid balance at the OEB's prescribed construction work in progress (CWIP) rate." Hydro One notes that once an asset is placed into service, it becomes a capital asset forming part of rate base. Until such time as a capital contribution is received from the customer, Hydro One would be accountable for the full amount of the debt and equity costs associated with that asset including applicable taxes, and would need to recover those costs from the customer accordingly. In order to avoid cross-subsidization by other ratepayers, Hydro One submits that the interest charged to connecting customers that pay their capital contributions in installments should therefore be at the rate of the transmitter's Board-approved cost of capital including the impact of corporate taxes.

Hydro One suggests therefore that the proposed section 6.3.19 be modified as follows (new text shown in italics):

> 6.3.19 Where a distributor is required under this Code to provide a capital contribution to a transmitter, the transmitter shall permit the capital contribution to be provided in equal installments over a period of time not to exceed five years. Where a distributor provides the capital contribution in installments, the transmitter shall charge interest on the unpaid balance at the *rate of the transmitter's Board-approved cost of capital including the impact of corporate taxes* ~~OEB's prescribed construction work in progress (CWIP) rate which is updated quarterly and published on the OEB website~~. The interest charges shall accrue monthly commencing on the date the connection asset goes into service and be paid annually, as part of each installment payment.

3.7 Advanced Funding Revenues (TSC Appendix 5)

Hydro One submits that there is no need to amend Appendix 5 of the TSC to include any reference to Advanced Funding Revenues since such Revenues are distribution revenues (not transmission). These Revenues simply form part of the distributor's capital contribution payment and do not affect the discounted cash flow calculation set out in Appendix 5 in any way.

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[3] The suggested modifications to the proposed sections 6.3.18A and 6.3.18B in sections 3.3 and 3.4 of this submission, respectively, are intended to also address this concern by simply referring to "pool" instead of "network pool".

3.8 EOL Replacements (TSC S. 6.7.2)

Hydro One is generally supportive of the Board's proposed amendments to the TSC relating to the treatment of end-of-life ("EOL") assets. Hydro One agrees with the Board that where a customer requests the replacement of a connection asset that is not at EOL, the customer should pay the remaining net book value ("NBV") of the asset. Doing so would be consistent with the Board's current approach to the recovery of stranded costs due to bypass and would save the pool harmless. However, the *advancement* of the EOL replacement of that asset represents an additional cost that must also be recovered. Hydro One submits therefore that, in addition to the NBV, the customer must also pay the advancement cost.

3.9 Refund Calculation Methodology (TSC S. 6.3.17A)

In regards to the capital contribution refund mechanism, it has come to Hydro One's attention that the methodology for calculating refunds in section 6.3.17A of the TSC appears to suggest that a single economic evaluation would be performed that aggregates the load forecasts of both the initial customer and the subsequent customer to calculate a revised capital contribution amount, which would then be allocated between the two customers based on the *cost* allocation methodology set out in section 6.3.14, 6.3.15 or 6.3.16, as appropriate.

Hydro One submits that it is never appropriate to conflate the load forecasts of different customers in a combined discounted cash flow ("DCF") calculation. Rather, the rebate methodology should be consistent with the methodology used in the initial DCF calculation, as set out in Appendix 5 of the TSC, which attributes connection revenue to only that customer whose load generated that revenue. Consistency should be maintained with the initial economic evaluation to ensure that the refund is calculated based on a DCF calculation that is also customer-specific.

The cost allocation methodologies set out in sections 6.3.14, 6.3.15 and 6.3.16 are appropriate only for determining the cost input to the DCF calculation for each customer, and not for directly allocating capital contribution amounts to customers. The initial customer should have its initial economic evaluation reset based on its new cost accountability resulting from excess capacity being assigned to the subsequent customer. Only by performing a separate DCF calculation for each customer would it be possible to avoid holding the initial customer accountable for the load performance of the subsequent customer, and vice versa. Separate DCF calculations are also necessary to avoid cross-subsidization between customers during true-ups due to differences in embedded generation, energy conservation, energy efficiency, load management and renewable energy activities, as well as to allow for a proper determination of each customer's financial risk classification, as per Appendix 4 of the TSC.

Hydro One therefore suggests that the proposed section 6.3.17A be revised as follows (new text shown in italics; new section 6.3.17B is suggested to clearly delineate the capital contribution calculation of the initial customer from that of the subsequent customer):

6.3.17A For the purposes of section 6.3.17, the transmitter shall determine the amount of the refund to the initial customer ~~and of the financial contribution from the subsequent~~

~~customer~~ by calculating a revised capital contribution amount using the prescribed economic evaluation methodology set out in section 6.5 and the same inputs as used in the original economic evaluation except for load, which will be based on the actual load of the initial customer up to the time of connection of the subsequent customer and a revised load forecast for the remainder of the economic evaluation period*, and cost, which will be determined using the methodology set out in section 6.3.14, 6.3.15, or 6.3.16*.

6.3.17B For the purposes of section 6.3.17, the transmitter shall determine the amount of the financial contribution from the subsequent customer by calculating a capital contribution amount using the prescribed economic evaluation methodology set out in section 6.5 and the same inputs as used in the original economic evaluation for the initial customer except for load, which will be based on the subsequent customer's load forecast for the remainder of the economic evaluation period, and cost, which will be determined using the methodology set out in section 6.3.14, 6.3.15, or 6.3.16. ~~The revised load forecast will include an updated load forecast of the initial customer plus the load forecast of the subsequent customer. The transmitter will then use the methodology set out in section 6.3.14, 6.3.15 or 6.3.16 to allocate the revised capital contribution amount to the initial and subsequent customers. The refund to the initial customer shall be determined by subtracting the initial customer's allocated share of the revised capital contribution amount from the original capital contribution amount paid by the initial customer.~~

3.10 Definition of "Network Facility" (TSC S. 3.0.14)

Hydro One would like to take this opportunity to also bring to the Board's attention an apparent typo in section 3.0.14 (a) of the TSC.

In both the Board's Notice of Proposal to Amend a Code (May 17, 2013) and Notice of Amendments to Codes (August 26, 2013) in the Board's Regional Planning proceeding (EB-2011-0043), section 3.0.14 appears as follows:

3.0.14 Subject to section 3.0.15:

(a) a "network facility" includes any line that forms part of the physical path between:

i. two network stations; or

ii. a network station and the transmission system of a neighbouring Ontario transmitter or a transmission system outside Ontario,

such that electricity can be transmitted along the entire path under some operating conditions, which may or may not reflect normal operating conditions;

However, when the TSC was subsequently updated and posted on the Board's website, section 3.0.14 was changed to:

3.0.14 Subject to section 3.0.15:

(a) a "network facility" includes any line that forms part of the physical path between:

i. two network stations; or

ii. Network stations and the transmission system of a neighbouring Ontario transmitter or a transmission system outside Ontario, such that electricity can be transmitted along the entire path under some operating conditions, which may or may not reflect normal operating conditions;

Given the inconsistency with the Notices, Hydro One assumes that the changes to the wording in section 3.0.14 from the time of the issuing of the Notices to the time of the updating of the TSC were unintentional, and recommends that the Board correct this typo as part of the current Code amendments.

4.0 DISTRIBUTION COMMENTS

4.1 Allocation of Costs to Embedded Distributors (DSC S. 3.2.4A)

Hydro One supports the Board's proposal related to the allocation of transmission investment costs to embedded distributors. Appropriate cost allocation is about fairness: treating customers equitably and protecting groups of customers against paying for costs that should appropriately be borne by others. Currently, host distributors' customers bear the full cost of capital contributions to transmission projects that could also benefit embedded distributors and their customers, which inflates the host distributors' rates above what they ought to be. This is a particular concern for Hydro One, a host distributor to about 80% of electricity distributors in Ontario. Without the proposed amendment, the rates of host distributors' customers will continue to reflect these inappropriate subsidies to embedded distributors. This situation is both inequitable and inconsistent with regulatory principles.

Additionally, without the ability to allocate such costs to all beneficiaries, host distributors' costs are overstated in all Board analyses. This impairs their performance in the Board's annual total cost benchmarking analysis which informs the Board's approval of their proposed revenue requirements. It also prejudices their cost efficiency metrics that are published annually in the Board distributor performance scorecards, which inform public and professional opinions about their performance.

Given that the proposed amendment is prospective, even after it is enacted, the historically overstated capital costs will continue to prejudice host distributors' performance in the total cost benchmarking analysis because it includes years of accumulated costs that should have been apportioned to embedded distributors.

4.2 Allocation of Costs to Large Load Customers (DSC S. 3.2.4A)

The Board proposes allocating costs to not only embedded distributors, but also large load customers meeting a threshold of 3 MW or more. Hydro One recognizes that there are some issues with "flowing" transmission costs to large load customers, including the following:

a) It can discourage overall business growth, which otherwise would indirectly benefit all customers by increasing the total load over which costs are spread.

b) Customers may attempt to split their load across several delivery points in order to "get around" the 3 MW threshold.

c) It places a potential administrative burden on individual customers who must manage their loads and related reconciliation processes, etc. over the 15-year period. Customers of this size may not have access to the expertise required to manage their obligations well.

d) It places a similar burden on distributors associated with administering the related contractual, true-up, settlement and other processes required, depending on how these processes are structured. (Hydro One, for example, has about 80 distribution customers which meet the 3 MW threshold and 55 distributors embedded in its service area).

Hydro One submits that the issue is not necessarily a customer's absolute size, but, rather, the financial impact of their incremental load request on the distributor in a transmission-constrained area. A new distribution connection or upgrade in such areas can mean sudden, substantial capital outlays by the distributor for additional transmission capacity. At the same time, resource-based companies (often the source of these requests at Hydro One) are especially vulnerable to sudden market swings and Hydro One does not wish to impose a more onerous cost of connection on them. Managing these requests, therefore, requires a cost treatment which balances the needs of such customers with those of remaining distribution ratepayers.

Given the considerations above, Hydro One supports the allocation of costs to large load customers, but suggests that the 3 MW threshold apply only to the *new or incremental* capacity which the customer has requested, rather than to the customer's absolute size. Hydro One submits that this approach strikes a reasonable balance between protecting distribution ratepayers and customers driving significant investments, while encouraging a healthy business climate in the Province.

4.3 The Process for Apportioning Transmission Investment Costs to Distribution Beneficiaries (DSC S. 3.2.4A)

Page 9 of the Notice describes the Board's intent regarding the allocation of transmission investment costs to distribution-connected beneficiaries of the investment:

> "The OEB is of the view that the beneficiary pays principle should apply to all distributors, regardless of whether they are connected to the transmission system or embedded within a distribution system, and the allocation of the *costs* should reflect the extent each distributor (and its customers) caused the need for and benefit from a connection facility investment. In other words, all distributors should be treated the same in terms of cost responsibility, with the *costs* apportioned based on the relative capacity needs of the host and embedded distributor(s) that benefit from the connection investment. [Italics added for emphasis.]

Hydro One understands the italicized portions to mean that the Board's intent is to ensure the allocation of the total transmission investment[4] to all distribution-connected beneficiaries, and not the capital contribution. Hydro One supports that intent. The following are points of clarification to ensure that no potential misunderstanding of the wording proposed in DSC Section 3.2.4A, inserted below, leads to potential issues with the allocation process itself.

> 3.2.4A Where a distributor has been required to provide a capital contribution to a transmitter under the Transmission System Code for the purpose of modifying a transmitter-owned connection facility, and the modification also meets the needs of an embedded distributor and/or a load customer with a non-coincident peak demand that is equal to or greater than 3 MW, the distributor shall require a capital contribution from all beneficiaries that contributed to the need for the modification based on their respective incremental capacity requirements.

The wording in the proposed DSC Section 3.2.4A could be interpreted as suggesting that:

a) the host distributor's allocation of its capital contribution among all distribution beneficiaries (including itself) is based on each beneficiary's incremental capacity requirement (as a proportion of the total incremental capacity requirement),

   rather than,

b) the allocation of the transmission project's total cost among all distribution beneficiaries based on the economic benefit that each beneficiary brings to the transmission system. ("Economic benefit" is considered to be each beneficiary's share of the transmission project costs and revenues.)

4.3.1 Hydro One's Suggested Methodology for Cost Allocation to "Downstream" Customers

Hydro One submits that its interpretation in b) above, is consistent with the Board's stated intent on page 9 of the Notice and is more equitable than interpretation a). Adoption of interpretation b) may be effected by a host distributor treating each distribution beneficiary as if it were directly connected to the transmission system for the purposes of transmission cost allocation and recovery. This would require the host distributor to:

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[4] The total project cost prior to the performance of an economic evaluation at the transmission level.

i) allocate its portion of the transmission cost (not its capital contribution) to all distribution-connected beneficiaries (including itself) based on each beneficiary's required incremental capacity, and then
ii) calculate the capital contribution (and subsequent true-ups) for each beneficiary, based on the economic benefit evaluation attributable to the incremental load of that beneficiary, in accordance with the TSC Section 6.5.

This methodology could be executed in a couple of ways:

1) The host distributor may calculate the benefit on behalf of its applicable load customers and embedded distributors. For administrative simplicity and to ensure no cross subsidization, the host distributor's risk profile as per TSC 6.5.3 should be utilized for downstream calculations. This would require either the transmitter or the host distributor to utilize the transmission discounted cash flow ("TX DCF") model for each customer individually. As part of Hydro One's transmission business's ("Hydro One Transmission") current true-up process, Hydro One already provides to connecting load customers and distributors a copy of the DCF model which could be utilized to calculate downstream contributions. If this approach is chosen, Hydro One is further prepared to make available technical experts to provide training or further clarification on the calculation, as needed.

2) Hydro One Transmission is prepared to perform the calculations on behalf of the host distributor. To effect this approach, Hydro One suggests that the Board permit Hydro One Transmission to treat the host distributor's applicable downstream customers as if they are directly connected to the transmission system for the purposes of performing the TX DCF for cost allocation and recovery. This would allow the assessment of each individual customer's contribution to be based upon its unique risk profile and economic benefit. Hydro One Transmission would then invoice the host distributor for the payment, who in turn would invoice their applicable customer or embedded distributor.

It is important to note that the Board should approve *one* of these two approaches, as each uses a different method to assess the risk profile of the downstream beneficiaries. Leaving the choice of method to each distributor on a case-by-case basis, therefore, could lead to different cost allocations to otherwise similar beneficiaries, depending on whether the transmitter or the distributor performs the calculation.

Hydro One makes these suggestions, as we are concerned that a potential misinterpretation of the proposal, as currently worded, would result in material cross-subsidization between customers. Specifically, if it is the capital contribution that is apportioned based on each participant's "share" of the incremental capacity need, this could result in a large industrial or commercial customer, whose capacity needs often quickly "ramp up" to fulfill their forecast in a relatively short time frame, subsidizing the host (or embedded) distributor whose capacity needs tend to increase more gradually over the same time period. This could pose a significant barrier to these "large" customers choosing to connect to the distribution system.

To help illustrate this issue, Appendix A to this submission includes a typical investment, with three scenarios showing the different cost allocation methods. These highlight the differences between the methodologies and demonstrate that the industrial customer ultimately pays a significantly higher contribution if the current wording proposed for DSC Section 2.3.4A is interpreted as applying to an allocation of the capital contribution. This is due to the customer's speedier use of their capacity (vis-a-vis that of the distributor) which increases the revenues attributable from that customer.

4.3.2 Other Issues

Hydro One is also concerned about the lack of a clear mechanism to address true-ups performed by the transmitter in accordance with the TSC's Section 6.5 for distribution-connected beneficiaries of transmission investments. At this time, we assume that distributors would be required to apply a similar true-up process to their "downstream" beneficiaries. However, for a distributor obliged to make a true-up contribution to the transmitter, the process of simply apportioning this true-up capital contribution between itself and the distribution beneficiaries according to their incremental capacity as a proportion of the total, means that any beneficiary may still be required to provide more funding, despite having met their load and revenue forecasts.

Hydro One submits that applying the methodology suggested in section 4.3.1 would ensure that each beneficiary is treated equitably during the calculations of both the initial capital contribution and any needed true-ups. While distributors choosing to perform transmission economic evaluations themselves may need some up-front assistance or training, Hydro One nonetheless believes that its approach, overall, is manageable and more administratively efficient in the long run. It would also help prevent a potential mismatch in cost and revenue flows between the various parties, particularly for large load customers.

Hydro One notes that the Board's Notice is silent on a couple of items related to the distributor's treatment of transmission capital contributions. Specifically Hydro One would appreciate the Board's guidance on the following:

- the need for security deposits, if any and
- the treatment of rebates and the host distributor's application of these (to address, for example, unforecasted customer connections or increases in embedded distributors' incremental capacity needs).

4.4 Definition of "Customer" (DSC S. 1.2)

Hydro One strongly disagrees with the inclusion of embedded distributors in the definition of "customer." The concept of distributors as "embedded" in another distributor's service area derives from the historical configuration of their assets and evolution of their systems over time. Regardless of this situation, there is a need from a regulatory standpoint to treat embedded distributors differently from load or generation customers. The DSC currently recognizes embedded and host distributors as business counterparts in a distribution chain – fundamentally different entities from load or generation customers who consume the product. Sections 6.3 through 6.6 of the DSC acknowledge this by defining distributors' responsibilities to each other and defining sharing arrangements, among other things.

Hydro One is concerned that a broad amendment to the "customer" definition in the DSC could affect the existing treatment of embedded distributors, resulting in unintended consequences. For example, the provisions on alternative bid work in the DSC's Section 3.2.15 define certain activities as ineligible for alternative bid premised on *the assumption that the customer is not a licensed distributor*. However, if both the distributor and "customer" in this case have their own distribution system planning and specifications, this leads to uncertainty in applying the DSC rules and potential disputes between the two distributors. Another example of where this would be problematic is the treatment of costs for distribution system enhancements. The DSC states in Section 3.3 that a distributor shall not charge a customer a capital contribution to construct an enhancement. However, enhancements may be required due to (and to accommodate) the normal load growth of both the host and embedded distributor, in which case the embedded distributor should be required to contribute to the cost of the enhancement to prevent the host distributor's ratepayers subsidizing those of the embedded distributor.

Hydro One also questions whether such a "broad-brush" change across the DSC could also have implications for distributors' licence conditions, requirements in other codes and other regulatory obligations, such as reporting requirements.

Hydro One submits that, rather than make one overall change in the DSC with potential unintended consequences, it would be more appropriate to *deem* embedded distributors as customers of the host distributor for only the sections associated with cost responsibility. The Board has already done this in other areas (for example Section 2.4.29). Hydro One submits that this approach would enable the changes intended by the Board without unintended consequences.

We suggest this treatment for the Board's proposed DSC Sections 3.1.17, 3.1.18 and 3.5 (addressing cost treatment for end-of-life assets, distribution feeder transfers and bypass compensation, respectively) and Hydro One's proposed new Section 3.6 to address the management of distributor contributions for transmission investments (as discussed in section 4.7 of this submission). There may be specific items within the DSC's Section 3.2 ("Expansions") as well, which require this treatment, depending on the Board's decisions on certain proposals.

4.5 Definitions of "Host Distributor" and "Embedded Distributor" (DSC S. 1.2)

During Hydro One's review of the Board's proposal to include embedded distributors in the definition of "customers," Hydro One identified an issue that was not specifically raised by the Board in its Notice, but to which Hydro One wants to draw the Board's attention. Currently, the DSC defines an embedded distributor as a "distributor who is *not* a wholesale market participant and that is provided electricity by a host distributor" and a "host distributor" is a "registered wholesale market participant distributor who provides electricity to an embedded distributor". These definitions do not reflect the current reality. Hydro One's distribution business has 55 licensed electricity distributors connected to its distribution system, 39 of whom are wholesale market participants. These 39 distributors would not be considered "embedded distributors" under the current definition in the DSC. Technically, therefore, *this distinction would remove* *them from consideration for the cost responsibility changes proposed in the Code amendments,* which Hydro One does not believe is the Board's intent.

Unlike the Retail Settlement Code which addresses billing and settlement terms, there is no need in the DSC to distinguish between distributors on the basis of their status as wholesale market participants. Other than Section 9.7.1 (discussed below), the DSC provisions applicable to the "host-embedded" relationship are meant to address cost responsibility and technical and other requirements applicable to both distributors when such connections are made (for example, Sections 6.3.1 - 6.3.3).

Hydro One believes that to ensure that the customers of a host distributor do not subsidize those of embedded distributors, the existing definitions of both terms in the DSC must be modified, as follows (new text shown in italics):

> "embedded distributor" means a distributor who ~~is not a wholesale market participant and that is provided electricity by a host distributor~~ has one or more connection points that are not directly connected to the IESO-controlled grid but which are instead connected to a distribution system of a host distributor.
>
> "host distributor" means a distributor who provides ~~electricity to an embedded distributor~~ distribution services to an embedded distributor and where the embedded distributor is not a wholesale market participant, provides electricity as well.

These changes would ensure that the Board's intent as reflected in the proposed amendments will be properly implemented. The re-defined terms for 'host" and "embedded," now absent the "wholesale market participant" distinction, then may also be used in the Board's proposed new DSC Sections 3.1.17, 3.1.18 and 3.5.

Hydro One suggests that Section 9.7.1 ("Reporting Requirements for Embedded Distributors") be modified as follows, to reflect that the reporting obligations would only be applicable to embedded distributors who are not wholesale market participants (new text shown in italics):

> 9.7.1 For each calendar month, beginning in 2016, an embedded distributor *who is not a wholesale market participant* shall provide its host distributor, no later than the second business day of the following month, with the following information:
>
> (a) for each OESP rate class, the total number of the embedded distributor's customers that received OESP rate assistance; and
>
> (b) for each OESP rate class, the total amount of rate assistance received by the embedded distributor's customers.

4.6 Relocation of Distributor Owned Assets (DSC S. 3.1.20 & 3.1.21)

Hydro One would like to bring to the Board's attention that relocation of distributor plant is already addressed in detail in Section 3.4.1 of the DSC. If the Board would like to address the relocation of distributor plant in the absence of a customer request, we submit that the proposed

Section 3.1.21 be moved to Section 3.4 to become Section 3.4.2. For consistent use of terminology, we would also suggest that the reference to "distributor plant" be changed to "distributor-owned asset" or vice versa. Finally, we would suggest the removal of the term "connection" in the proposed sections, as distributors and customers can require the relocation of plant that is classified as part of the main distribution system, as well. Our suggested wording is as follows (new text in italics):

> 3.4.2 (a) Where a customer requests the relocation of *distributor plant* ~~a distributor-owned asset~~, the distributor shall recover from that customer the cost of relocating that ~~connection~~ facility.
>
> (b) Where *distributor plant* ~~a distributor-owned asset~~ is relocated in the absence of a customer request, the distributor shall bear the cost of relocating that asset.

4.7 Hydro One's Suggested New DSC S. 3.6 Distributors' Cost Responsibilities to Transmitters (vs. DSC S. 3.2.4A)

Hydro One is unsure whether the Board intended that all rules addressing responsibility for transmission investments between the distributor and the transmitter be treated as an aspect of distribution system expansion. The proposed amendments related to the treatment of transmission costs have been included in the DSC's Section 3.2 ("Expansions"). However, the Board did not propose modifying the DSC's definition of "expansion" (page 11 of the DSC) which very specifically addresses only *distribution systems* as stated below:

> "expansion" means a modification or addition to the main distribution system in response to one or more requests for one or more additional customer connections that otherwise could not be made, for example, by increasing the length of the main distribution system, and includes the modifications or additions to the main distribution system identified in section 3.2.30 but in respect of a renewable energy generation facility excludes a renewable enabling improvement;

Hydro One is concerned that inclusion of the proposed amendments related to responsibilities for transmission investments within the "Expansion" section of the DSC implies that a single set of (distribution) revenues will be split across two different investments (the transmission project and distribution expansions). This will create confusion and difficulty in performing calculations when a distributor must contribute to both transmission and distribution investments related to the same transmission project. Contributing to potential confusion is the proposed inclusion of distributor revenues from the proposed advanced funding options for transmission investments in the economic evaluation that is part of the DSC's Appendix B (proposed on pages 7 and 8 of Attachment B to the Board's Notice).[5]

Hydro One believes that much of the potential confusion would be eliminated by creating a new DSC Section 3.6 focused only on distributors' cost responsibilities to transmitters. A new Section 3.6 could clearly address all aspects of the cost allocation mechanics, including:

[5] Hydro One's comments on the proposed Alternative Funding Options are provided in section 4.14 of this submission.

a) The role of embedded distributors for the purpose of this new section (i.e., "For the purposes of Section 3.6, embedded distributors are deemed to be customers of host distributors.")

b) All references to the methodology for calculating the transmission capital contribution, as discussed in section 4.3 of this submission.

c) The use of a proposed 15-year customer connection horizon *solely* for the management of transmission contributions, which Hydro One supports. We agree that aligning the two codes' connection horizons is required to ensure that the process of calculating the initial capital contribution for a transmission investment, as well as assessing true-ups and rebates, does not result in a mismatch of funds between the various parties, among other things. However, Hydro One does *not* support the use of a 15-year horizon with respect to the expansion deposit refund process for *distribution expansions*, as discussed in section 4.11 of this submission.

d) Management of the distributor's potential true-up obligations to the transmitter over the 15-year connection horizon. At this time, distributors have no true-up mechanism to ensure that *distribution beneficiaries of a transmission investment pay their fair share* as needed, throughout the 15-year period. As stated in section 4.3 of this submission, Hydro One assumes that distributors will be required to apply a true-up process similar to that used by the transmitter to manage their requirements with their "downstream" beneficiaries. We believe that the true-up process described in section 4.3 is reasonably manageable for distributors' use.

Hydro One believes that the new Section 3.6 could also correct and/or clarify a few other aspects of the proposed amendment to DSC Section 3.2.4A, as follows:

a) The currently proposed wording refers only to a "modified" transmission asset, which excludes the possibility of contributions to a new transmission asset.

b) A host distributor could be making a capital contribution related to a new or modified connection facility that is *solely* on behalf of a customer or embedded distributor,

   To address both issues above, Hydro One suggests the following re-wording for Section 3.2.4A (new text shown in italics):

   3.2.4A Where a distributor has been required to provide a capital contribution to a transmitter under the Transmission System Code for the purpose of ~~modifying~~ a *new or modified* transmitter-owned connection facility, and the *new or modified transmission facility* ~~modification~~ *solely or* also meets the needs of an embedded distributor and/or a load customer with a non-coincident peak demand that is equal to or greater than 3 MW, the distributor shall require a capital contribution from all beneficiaries that contributed to the need for the modification based on their respective incremental capacity requirements.

c) With respect to the definition of a large load customer as being a customer "with a non-coincident peak demand that is equal to or greater than 3 MW", as previously discussed, Hydro One suggests that the capacity threshold be applied to only the new or incremental capacity requested by the customer. In the alternative, if the Board decides that the 3 MW threshold applies to the customer's *size*, it would be helpful to clarify:

   i) Whether the non-coincident peak demand is understood to be an *annual* peak number (rather than an average monthly peak value) and that for new customers this is a *forecast* value.
   ii) Whether the threshold is prior to, or inclusive of, the additional capacity requested. For example, would a customer with existing non-coincident peak demand of 2 MW, who requests an additional 1 MW of capacity, be considered to meet the threshold or not,

d) As a point of clarification, regardless of the treatment of capital contributions to the transmitter, Hydro One assumes that the current principles for unforecasted customer rebates would apply, but only to "large" customers, however defined.

To improve mutual understanding and ease of application, Hydro One recommends that the Board include a new DSC appendix with a description of the methodology and sample calculations showing how the recovery of a distributor's transmission capital contribution would flow to embedded distributors and large customers.

4.8 Replacement of End-of-Life ("EOL") Distribution Assets (DSC S. 3.1.17)

The Board proposes to add a new Section 3.1.17 to the DSC, requiring distributors to consult with customers prior to the replacement of EOL assets and providing cost recovery rules for three replacement scenarios: a) a "like for like" replacement, b) additional capacity required or c) lower capacity required. Hydro One understands the Board's intent is to mirror the same rule proposed for application to end-of-life transmission connection facilities.

Hydro One agrees with the general concept, but believes that the term "asset, or "connection asset" as discussed on page 6 of the Notice is too general a term when applied to distribution facilities, which could lead to significant implementation difficulties. Transmission connection facilities are easily identifiable facilities typically connected to only a few distributors or large customers and the term is defined very specifically in the TSC. Distributors, however, have countless "connection" assets serving many customers (and other distributors) and a requirement to consult unnecessarily would have a major impact on efficiently carrying out sustainment work.

Hydro One submits that using this concept for distribution *connection assets* would be unmanageable and instead suggests limiting the obligation to consult on EOL distribution *stations* whose replacement could have a significant cost impact on the applicable customers or embedded distributors. The words "transmission-connected" could be inserted after the phrase "distributor-owned" in the first sentence of Section 3.1.17 to further clarify this intent. Hydro One also suggests changing the phrase "applicable customers" to "load customers with a non-coincident peak load equal to or greater than 3 MW and embedded distributors" to capture the Board's intent to limit the obligation to consult to large customers and to align with our comments in section 4.4 of this submission. The following shows Hydro One's suggested wording (new text shown in italics):

3.1.17 Where a *distributor-owned transmission-connected station* ~~asset~~ has reached its end-of-life and is retired, the distributor shall undertake an assessment, in consultation with the ~~applicable customer(s)~~ *load customers with a non-coincident peak load equal to or greater than 3 MW and embedded distributors*, to determine the appropriate capacity of the replacement asset….

4.9 Distributor Feeder Transfers as Regional Distribution Solutions (DSC S. 3.1.18)

Section 3.1.18[6] proposes that a distributor requiring additional transmission capacity may invest to connect to the distribution system of another distributor which is supplied from a transmission facility that has capacity in excess of their forecast growth. A process involving the provision of evidence from the transmitter and IESO, will be required for Board approval. While the amendments address investments needed for new or modified facilities; we suggest that attention to the potential use of *existing* assets is also needed.

Hydro One agrees with the intent of this amendment, but it is vitally important that the additional regulatory approvals process be managed as efficiently as possible given customers' ongoing concerns with keeping rates low, meeting their schedules and providing certainty on costs. In this context, Hydro One believes that IESO *confirmation* to support the application, as stated in Section 3.1.18 (1)(a) of the Board's proposed wording is not necessary. The IESO may support the application by identifying the transmission connection improvement needed and the optimal solution. The cost of the transmission investment should be determined by the transmitter, however. Therefore, Hydro One submits that Section 3.1.18 (1)(a) of the amendment could be more generic and suggests replacing the phrase "confirmation by the IESO" with "supporting evidence by the IESO".

Section 3.1.18 (2) which addresses contractual arrangements between the two distributors, discusses rebates from distribution customers to initial transmission-connected contributors under Section 6.3.17 of the TSC, but Hydro One submits that *it should also address rebates for initial distribution-connected contributors to the transmission facility.* This Section also notes "any other costs that may be identified…for the purpose of cost recovery by the facilitating distributor." Hydro One interprets this to also include any costs or charges associated with the use of the connecting distributor's *existing* facilities.

All of the above changes are incorporated in Hydro One's suggested wording below (new text shown in italics) :

3.1.18 A distributor shall not connect to the distribution system of another distributor for the purpose of obtaining additional transmission connection capacity without the approval of the Board. The two distributors shall file a joint application for approval of the *proposed arrangement and any required investment in the* distribution asset,

[6] A minor issue, but Section 3.1.18 comprises two parts, with the second part unnumbered. For clarity, Hydro One will refer to them as 3.1.18 (1) and 3.1.18 (2), where needed.

and the compensation to be provided by the connecting distributor to the other distributor ("the facilitating distributor"), with the Board and include as part of the application:

(a) *supporting evidence* ~~confirmation~~ by the IESO that the proposed distribution investment would avoid a higher cost investment in a transmission connection facility and would be the optimal infrastructure solution from a regional planning perspective;

….

The agreement between the connecting distributor and the facilitating distributor… shall specify:

(a) the capital contribution that the connecting distributor will provide to the facilitating distributor to compensate it for all the costs incurred to facilitate the distribution investment that connects it, taking into account any capital contribution refund that may be required under section 6.3.17 of the Transmission System Code~~;~~ *and any rebates to initial contributors that may be required under Section 3.2.27 of the Distribution System Code.*

….

(c) any other costs *arising from the connecting distributor's use of the facilitating distributor's new or existing assets* that may be identified by the two distributors, for the purpose of cost recovery from the connecting distributor;

The proposed amendment to 3.1.18 introduces new terms "facilitating" and "connecting" distributors. Hydro One submits that these terms are not required and the more familiar terms "host" and "embedded" distributors may be used. If the Board believes there is a material distinction between the terms facilitating/connecting versus host/embedded with respect to interpreting this proposed amendment, then this needs to be clarified.

4.10 Mandatory Use of Expansion Deposits for Distribution Expansions (DSC S. 3.2.20)

Hydro One believes that expansion deposits should not be collected for smaller expansions, as the amount of risk mitigated may not warrant the administrative costs. We propose the use of a materiality threshold (and suggest the cost of an expansion of $100,000) above which, an expansion deposit would be mandatory. This would avoid the administration of small expansion deposits for minor expansions or for customers who generate lower revenues.

Hydro One notes that in some cases, developers of commercial or industrial sub-divisions submit requests to connect without a load forecast – critical information for (among other things) developing the associated revenue forecast. In such situations distributors may develop forecasts using their best judgment, but the issue is fraught with difficulties beyond the inability to calculate expansion deposits. Guidance from the Board on dealing with such circumstances would be appreciated.

From page 29 of the Notice, it appears that the Board intended to make expansion deposits optional where no capital contribution is required from the customer. In Hydro One's opinion, the absence of a customer capital contribution may not correspond to reduced forecast risk; as such, we believe that if the cost of an expansion exceeds the threshold proposed above, an expansion deposit will help manage the associated risk.

4.11 Extension of Connection Horizon for Large Distribution Customers (DSC S. 3.2.23)

The Board proposes to extend the customer connection horizon for large distribution customers (those at 3 MW or more) from five to 15 years (thereby similarly extending the period for expansion deposit refunds and also for collection of rebates for initial contributors to the distribution investment). As stated on page 28 of the Notice, customers below the 3 MW threshold are exempted from this change, as are developers of residential subdivisions, for the reason that none would remain for 15 years.

Hydro One strongly disagrees with this 15-year extension and recommends maintaining five years as the typical customer connection horizon for *all* customer investments in distribution system expansions, for the reasons discussed below:

a) The need for this change on Distribution is not adequately supported. Page 29 of the Board's Notice discusses the similar purpose of transmission true-ups and distribution expansion deposits. Hydro One agrees with this very basic comparison, but we also believe that differences between the two delivery systems need to be acknowledged. In this instance, there is no direct link between expansion deposits for distribution system expansions and true-ups for transmission investments, so aligning the true-up periods between the two mechanisms provides no operational, financial or other benefit to the transmitter, distributor or customer.

b) Hydro One does not agree that different horizons for connections (and importantly, for subsequent unforecasted customer rebates) should be applied to distribution system expansions based on the size of the initial contributor, as this would result in unfair treatment of smaller customers who may have contributed to like investments. As large customers may only require small expansions, there may be no direct connection between the size of the customer and the size of the investment in the distribution system.

c) Hydro One believes that distributors should *require* that customers' proposed load materialize within a reasonable time from the request (currently five years). Otherwise, distribution system capacity is effectively "locked-in" for that customer, which according to the Board's proposal would extend to 15 years. Existing distribution and transmission system capacity is a limited resource and should not be assigned to a customer for such a long period of time, potentially to sit unutilized where there may be other requesting customers that could make use of the capacity. This is particularly true in areas where system capacity is limited, which can present a barrier to entry for other customers and/or drive unnecessary investments.

d) Additionally, where the distributor does not have contracted capacity on the transmission connection facility supplying the distributor at that location, the distributor cannot guarantee transmission system capacity will be available for a distribution customer connection beyond one year (or as otherwise committed by the transmitter), as the TSC indicates that the transmitter will normally assign capacity only for that duration.

e) Hydro One is also concerned that 15 years is too long to manage expansion deposits for both financial and administrative reasons, as discussed below:

   i) Given the time value of money and the fact that the original PV calculation is not re-calculated, the value of the expansion deposit is significantly reduced after 15 years, which means that ratepayers are not being appropriately protected. Furthermore, allowing the full refund of the deposit when load only materializes late in the 15-year connection horizon, where in fact, it had been forecast to materialize early in the connection horizon, may not protect , as this is an excessive deviation from the original calculation.

   ii) Extending the connection horizon will drive greater administrative effort on both rebate management and expansion deposits, as follows:

      a. Rebate management – As a result of the proposed change, the current five-year period during which unforecasted customers connecting to an expansion must rebate initial contributors would substantially increase to 15 years. Each of these unforecasted customers, must in turn, be rebated by all subsequent customers who connect to “their” portion of the expansion. The Board should be aware that this process is already quite complex to manage over a five-year period and will become exceedingly so over a 15 year period.

      b. Expansion deposits – This proposal would result in the distributor monitoring each account with a deposit for 15 years, performing the refund calculation and providing a partial refund up to 15 times for each expansion deposit, which is highly inefficient. Furthermore, the vast majority of large load customers request connection of a specific project that is expected to be fully operational within a few years, although they may be below their forecast. Because of this, the last 10 years of administrative effort would be applied to remaining deposit amounts of typically very little value.

Finally, Hydro One notes that although the Board’s Notice on page 28, maintains the five-year status quo for developers of residential subdivisions, the wording changes proposed for DSC Section 3.2.23, do not acknowledge that such subdivisions can meet the 3MW threshold. Developers of these subdivisions, therefore, would be eligible for the 15-year connection horizon based on the code amendments as currently proposed. Hydro One agrees with the Board that sub-division developers generally do not remain for 15 years and therefore, extending the horizon for these customers is not appropriate. Hydro One, therefore, submits that if the Board chooses to adopt a 15-year horizon for large distribution customers, which Hydro One does not support for the reasons noted above, the wording in Section 3.2.23 should be amended to reflect that the five-year status quo should remain for developers of residential subdivisions.

4.11.1 An Alternative Proposal for Distribution Expansion Deposit Refunds

Although this is not an issue raised in the Board's Notice, Hydro One submits that the Board should consider a change to the expansion deposit refund methodology for distribution system expansions that will enable expansion deposits to be refunded in proportion to the load necessary to bring the present value of the expansion to zero. Such a change would avoid distributors retaining customer expansion deposits once the pool has been held harmless. Hydro One submits that this approach is both fairer to the customer who made the deposit and appropriately protects ratepayers. It is also more administratively efficient for distributors, who would not need to manage numerous expansion deposits which provide no additional security for ratepayers, over a lengthy period.

4.12 Bypass Compensation (DSC S. 3.5)

Hydro One supports a new DSC section addressing bypass compensation as it will protect ratepayers should distribution system assets be subject to bypass before they have reached their end of life. Identifying bypass situations and addressing the issue has become increasingly complex, however, due to the proliferation of techniques with which customers may now manage their load.

As currently worded, the Board's proposed section 3.5.1, perhaps inadvertently, limits the applicability of bypass provisions:

a) The Board's proposed wording (" …bypass compensation from a customer, with a non-coincident peak demand that meets or exceeds 3 MW,…") is specific to large load customers only. Host distributors, however, also must address embedded distributors' actions to bypass their distribution facilities. Hydro One suggests that embedded distributors be *deemed* to be customers of host distributors for the purposes of the newly proposed DSC Section 3.5.

b) The proposed wording in DSC Section 3.5.1a) limits the definition of "bypass" to the disconnection of a facility. *Partial bypass*, however, is also possible from both load customers and embedded distributors. Hydro One suggests the following definition of "bypass," which addresses both possibilities, (assuming that embedded distributors are deemed to be customers of host distributors):

   Bypass – A reduction in the capacity loading of a distribution facility arising from a customer's:

   i) transfer of some or all of its existing load from the distributor's distribution system to a facility owned by the customer, a transmitter or a third party;
   ii) withdrawal of load from the distributor's distribution system due to the customer's installation of non-renewable generation, or

iii) withdrawal of load from the distributor's distribution system due to the customer's installation of renewable generation that is not connected in parallel with the distribution system.

c) Part iii) of the "bypass" definition proposed above would address an issue of increasing concern to distributors - load displacement facilities which island load from the grid. Hydro One agrees that load customers who install facilities to participate in load displacement and net metering programs should benefit from these programs without "penalty," *as long as the displaced load remains connected in parallel with the grid.* Whereas customers with parallel-connected facilities would continue to utilize the grid and/or grid services, non-parallel-connected facilities permanently bypass distribution system assets with results similar to those of conventional load customers who shift their load to another connection facility. Hydro One submits therefore, that such customers should be expected to pay bypass compensation and has suggested the wording in the definition above to address the concern.

As distributors have no view into a load customer's operation, they may not be able to discern load reduction due to bypass, from that due to conservation or other actions stated in the proposed DSC Section 3.5.2b) or due to reduced economic activity. Hydro One suggests that while the DSC cannot oblige load customers to notify their distributor of their plans or actions resulting in bypass of a facility, it can mandate that distributors require such customer obligations in their Conditions of Service and individual contracts with them. The DSC can also require embedded distributors to notify their host distributor of issues and plans which can lead to bypass. This would ensure that the economic assessment of a permanent load transfer from a distribution system would include proper consideration of bypass compensation.

The proposed three-month period for an assessment of bypass occurrence is very short for customers who operate seasonally, such as ski resorts. Hydro One believes that a period up to a year is needed to assess the capacity which has been bypassed, and suggests the following wording:

> "Bypassed capacity is capacity equal to the difference between the customer's existing non-coincident peak load in the year prior to bypass and the customer's non-coincident peak load in the year following bypass (as determined using actual load data collected up to one year after the time of bypass) at the supply point on the relevant distribution facility."

4.13 Cost Allocation between Load Customers and Generators (DSC S. 3.1.19)

On the proposed new section DSC Section 3.1.19 to address cost allocation applicable to a mix of load customers and generators for a new or modified distribution asset, Hydro One agrees with the intent, but would appreciate clarity on whether the amendment would apply to only *large* load customers. We are also concerned that there may be some inconsistency with DSC Section 6.2 which addresses the connection of distribution-connected generators and also, that this proposed amendment may be quite difficult to administer once the number of connecting parties rises beyond a handful.

4.14 Alternative Funding Options (DSC Appendix B)

Hydro One appreciates the Board's consideration of alternative funding options, in addition to the existing lump sum capital contributions for transmission investments, as they will help distributors mitigate consumer bill impacts of very large transmission investments.

Hydro One supports the use of these funding options at the discretion of the distributor and understands that any distributor taking advantage of these options would establish a deferral account for that purpose. Funds marked for annual installment payments would be paid annually to the transmitter. The funds derived from the Upstream Capacity Payment or the Upstream Connection Adder would be held in the deferral account until the distributor makes the required contribution to either the transmitter directly or to the host distributor to transfer to the transmitter. Funds provided to the host distributor are understood to be transmission funds, not distribution revenues. Accordingly, Hydro One believes that the funds from any of these options would not enter into the economic evaluation model for distribution expansions, so there is no need to amend Appendix B of the DSC to include reference to Advance Funding Revenues as shown on pages 7 and 8 of Attachment B to the Board's Notice.

While the intent of the alternative funding options is clear, Hydro One believes that further information on the development and implementation of these options is necessary to improve distributors' and stakeholders' understanding of how these options will work in practice. The Board states that implementation details are yet to be developed; to the extent that this requires help from another working group, Hydro One would be pleased to participate.

ATTACHMENT A

ILLUSTRATIVE EXAMPLES OF METHODOLOGIES FOR TRANSMISSION COST ALLOCATION

Section 4.3 of this submission discusses Hydro One's concerns with a possible misinterpretation of the Board's proposed wording on the allocation of transmission costs in DSC Section 3.2.4 A. The purpose of this attachment is to illustrate this concern and provide two potential alternative methods for allocating the transmission investment, which were discussed in section 4.3.1 of this submission. Below are illustrative examples of the different scenarios and the resultant impact upon customer contributions.

The following assumptions were used in the scenarios evaluated below:

1. $27 million transformation pool investment is required to create 120MW of capacity;
2. The capacity and associated costs allocations are:
   a. The industrial customer will require 20MW of incremental capacity to be utilized within three years.
   b. The embedded distributor will require 40MW of incremental capacity, with an initial requirement of 15MW (overload from other stations) and 1MW increase annually for 25 years thereafter.
   c. The host distributor will require 60MW of incremental capacity, with an initial requirement of 10MW (overload from other stations) and 2MW increase annually for 25 years thereafter.

2016 approved transmission rates and associated inputs were utilized in the economic evaluations underlying the results below. Hydro One would be pleased to share those evaluations with Board staff and participants in this consultation, if they wish.

Scenario 1: Hydro One Concern with Interpretation of the Current Proposed Amendment as Requiring Capital Contribution Allocated Across All Beneficiaries in Proportion to Their Incremental Capacity Request

As per Section 6.5 of the TSC, the transmitter calculates a $14.2M capital contribution from the host distributor and will include $12.8M in its rate base. Hydro One is concerned that the current proposed amendments could be interpreted as allocating this capital contribution in the following manner by the host distributor:

Customer	% of Capacity Required	Contribution Required
Industrial Customer	16.7% (20MW/120MW)	$2.4M
Embedded Distributor	33.3% (40MW/120MW)	$4.7M
Host Distributor	50.0% (60MW/120MW)	$7.1M
Total	**100%**	**$14.2M**

While this allocation of the initial capital contribution is simple, there is no proposed methodology to allocate subsequent transmitter-to-host distributor true-ups as per TSC Section 6.5.3. If the methodology shown above is repeated at the time of true-up and only one customer fails to achieve their load forecast, all other customers would be required to make a subsequent payment despite achieving their contractual obligations.

Scenario 2: Host Distributor Performs Calculations for Each Distribution Beneficiary

Again, as per Section 6.5 of the TSC, the transmitter calculates a $14.2M capital contribution from the host distributor and will include $12.8M in rate base. When the host distributor allocates the cost responsibility according to each downstream beneficiary's required capacity, extends the same low risk profile as per TSC 6.5.3 to the industrial customer, and performs an economic evaluation, the capital contribution would be allocated in the following manner:

Customer	**% of Capacity Required**	***Cost Responsibility* Allocated**	**Contribution Required**
Industrial Customer	16.7% (20MW/120MW)	$4.5M	$0.6M
Embedded Distributor	33.3% (40MW/120MW)	$9.0M	$4.6M
Host Distributor	50.0% (60MW/120MW)	$13.5M	$9.0M
Total	**100%**	**$27.0M**	**$14.2M**

Subsequent transmitter-to-host distributor true-ups, as per TSC 6.5.3, would not result in the same issue as Scenario 1 as long as the host distributor performs the downstream true-ups at the same time. Each customer would be directly accountable for only their load forecast and resulting true-ups.

Scenario 3: Downstream Customers Treated as Transmission-Connected

If the Board permits each embedded distributor or customer to be treated as "transmission-connected" for cost responsibility purposes, the transmitter would not calculate the initial $14.2M capital contribution from the host distributor. Instead, each "transmission-connected" customer would have its own separate calculation with its own assigned risk profile as per Section 6.5.3 of the TSC and Hydro One's Board-approved Transmission Connection Procedures. In this case both the embedded distributor's and the host distributor's capital contributions will remain unchanged from Scenario 2, as their load profile, risk classification and cost responsibility would remain unchanged.

While the industrial customer's load profile, capacity, and cost responsibility would remain unchanged, the customer would not automatically assume a distributor's risk profile. In this example, the risk profile of the customer is assessed to be medium-low and therefore, is provided an economic evaluation period of 15 years. The transmitter would perform the economic evaluation utilizing this shorter economic horizon and the following shows the resulting capital contributions:

Customer	**% of Capacity Required**	***Cost Responsibility* Allocated**	**Contribution Required**
Industrial Customer	16.7% (20MW/120MW)	$4.5M	$1.5M
Embedded Distributor	33.3% (40MW/120MW)	$9.0M	$4.6M
Host Distributor	50.0% (60MW/120MW)	$13.5M	$9.0M
Total	**100%**	**$27.0M**	**$15.1M**

This change in economic horizons would increase the industrial customer's contribution by $0.9M, resulting in the total transmission capital contribution being increased to $15.1M and will change the amount to be included in rate base to $11.9M (a $0.9M reduction in transmission rate base when compared to the previous two scenarios).

Subsequent true-ups, as per TSC Section 6.5.3, would not result in the issue raised under Scenario 1. Each customer would be directly accountable for their load forecast and resulting true-ups.

Hydro One notes that there may be minor variations between the final capital contributions calculated by the transmitter to the host distributor versus the sum of the embedded distributors and large load customer contributions under Scenario 2. This is due to differing times of peak load between the various customers and when the peak is achieved on the transmission asset subject to the economic evaluation. For simplicity in this example, all segments were assumed to have the same time of peak. Analysis of this variation utilizing actual customer data has shown that the variation is symmetrical and is less than 2% of the total contribution and is either borne by the host distributor or transmitter.