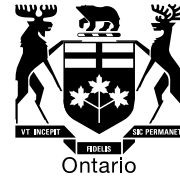


Ontario Energy Board
P.O. Box 2319
27th Floor
2300 Yonge Street
Toronto ON M4P 1E4
Telephone: 416- 481-1967
Facsimile: 416- 440-7656
Toll free: 1-888-632-6273

Commission de l'énergie de l'Ontario
C.P. 2319
27e étage
2300, rue Yonge
Toronto ON M4P 1E4
Téléphone: 416- 481-1967
Télécopieur: 416- 440-7656
Numéro sans frais: 1-888-632-6273



BY EMAIL AND WEB POSTING

December 18, 2018

NOTICE OF AMENDMENTS TO CODES TO FACILITATE REGIONAL PLANNING

**AMENDMENTS TO THE TRANSMISSION SYSTEM CODE AND
THE DISTRIBUTION SYSTEM CODE**

AND

NOTICE OF PROPOSAL TO AMEND A CODE

**SUPPLEMENTAL PROPOSED AMENDMENT TO
THE DISTRIBUTION SYSTEM CODE**

BOARD FILE NO.: EB-2016-0003

**To: All Licensed Electricity Distributors
All Licensed Electricity Transmitters
All Participants in Consultation Process EB-2013-0421
All Other Interested Parties**

The Ontario Energy Board (OEB) has issued amendments to the Transmission System Code (TSC) and the Distribution System Code (DSC) pursuant to section 70.2 of the Ontario Energy Board Act, 1998 (Act), as described in section B.

The OEB is also giving notice of a supplemental proposed amendment to the DSC pursuant to section 70.2 of the Act, as described in section C.

A. Background

On September 31, 2017, the OEB issued a Notice of Proposal to Amend a Code ([September Notice](#)) in which it proposed a number of amendments to the DSC and TSC

([September Proposed Amendments](#)) that were aimed at ensuring the cost responsibility provisions for load customers in those Codes are aligned and facilitate the implementation of regional plans.

On August 23, 2018, after considering stakeholder feedback on the September Proposed Amendments, the OEB issued a Notice of Revised Proposal to Amend a Code ([August Notice](#)) in which it proposed revisions to the September Proposed Amendments ([August Revised Proposed Amendments](#)). Under the August Revised Proposed Amendments:

- Where a transmission connection investment also addresses a broader network system need (e.g., reliability), the costs associated with such investments would be apportioned between the load and/or generator customer(s) that caused the need for the connection investment and the transmission network pool (i.e., all ratepayers), based on the proportional benefit between the connecting customer(s) and the overall system
- A capital contribution would be required from embedded distributors and *large* commercial and industrial (C&I) load customers of distributors, where they cause and benefit from investments in upstream transmission connection facilities, based on their *incremental* load requirements. A new threshold would apply for determining what size of load constitutes a large C&I load customer and that threshold would be based on non-coincident peak demand that meets or exceeds 5 MW
- Where a connection asset requires replacement at its end-of-life (EOL), the Codes would be modernized to reflect that wires replacement would need to be determined to be the optimal solution. Where that is the case, cost apportionment between a load customer and all ratepayers¹ would differ based on the circumstances as follows:
 - Where the replacement is the *same* capacity (i.e., like-for-like) or *right sized* to *lower* capacity, the customer would not be responsible for any replacement costs
 - Where the replacement involves an *upgrade*, the customer would be responsible for only the *incremental* cost; i.e., the amount that exceeds the cost of a like-for-like replacement – not the full cost

¹ At the transmission level, the reference to all ratepayers is province-wide through the connection pool. At the distribution level, the reference to all ratepayers is limited to customers in the distributor's service area.

- Where the customer requests replacement *before* EOL, the amount the customer would be responsible for would be limited to the remaining net book value (NBV) and the advancement cost – not the full cost
- A regional distribution solution would be facilitated, where more than one distributor is involved and it would avoid a more costly upstream transmission connection investment, so that the most cost effective wires investment in a regional infrastructure plan (RIP) can be implemented
- Where a distributor is required to pay a large lump sum capital contribution to a transmitter in relation to a transmission connection investment, the distributor would be permitted to spread the cost by providing the capital contribution in installments over five years (or longer, with OEB approval)
- Other changes involved proposed amendments to address inconsistencies between, and gaps within, the Codes. The proposed changes focused primarily on aligning the DSC with the TSC. Key considerations include improving alignment with the beneficiary pays principle, consistent treatment of customers across the numerous distributors in Ontario and the evolution of the distribution system (as the functions it performs are becoming more similar to those of the transmission system)

[Written comments](#) on the August Revised Proposed Amendments were received from 12 participants involved in this consultation, including the Independent Electricity System Operator (IESO) and representatives of business and residential consumers, a transmitter, distributors, and a residential subdivision developer.

B. Adoption of August Revised Proposed Amendments with Minor Revisions

The comments received from stakeholders generally supported the August Revised Proposed Amendments, although a number of stakeholders suggested the need for certain clarifications and some relatively minor changes. Distributors also provided some suggestions related to implementation of the changes to the Codes after the final amendments are issued.

The OEB has considered the comments received in response to the August Notice and has determined that no material changes are required to the August Revised Proposed Amendments. In light of the comments, however, the OEB has made four minor

revisions to the August Revised Proposed Amendments as described below. The OEB is adopting the August Revised Proposed Amendments with those revisions (Final Amendments). Implementation issues identified by distributors are also discussed below under “Coming Into Force”.

The Final Amendments to the TSC and the DSC, as adopted by the OEB, are set out in Attachments A and B to this Notice, respectively. Attachments C and D to this Notice set out, for information purposes only, a comparison version showing the revisions made to the current Codes as reflected in the Final Amendments.

1. *Revisions to the August Revised Proposed Amendments*

Upstream Transmission Connection Investments – Treatment of Embedded Distributors and Large Load Customers (new section 6.3.20 in TSC)

Upstream Transmission Investments – Capital Contributions

With increased clarity that the capital contribution will be limited to a customer’s *incremental* load, a representative of large C&I customers appears to have become more accepting of this requirement in noting that where a “load must pay more without any change in its own consumption appears inherently unfair. So long as [incremental load] remains the sole criterion for defining beneficiaries, there should be little risk that non-benefiting customers will be unfairly assigned cost.” A few stakeholders, primarily some distributors, again expressed concerns that focused predominantly on the negative impact on large load customers and, in turn, economic development in relation to requiring a capital contribution from large load customers within the distribution system based on their *incremental* capacity needs where they cause and benefit from an upstream transmission connection investment.²

The OEB remains of the view that beneficiaries should be required to pay the capital contribution whether they are connected to the distribution or transmission system. The OEB agrees that it is inherently unfair for non-beneficiaries (i.e., customers of the distributor that is directly connected to the transmission system) to subsidize the beneficiaries connected to the distribution system.

² For large C&I customers, a capital contribution may not be required or it may not be significant. Their incremental capacity needs would be driven by an expected increase in load, which would result in higher rate revenues for the distributor. The distributor undertakes an economic evaluation based on the C&I customer’s load forecast. That will determine if the increase in rate revenues paid by the customer would cover their allocated cost or if a capital contribution is needed to cover the shortfall and, if so, how much.

Upstream Transmission Investments – Capital Contribution True-ups

As noted in the August Notice, the same economic evaluation methodology – transmission discounted cash flow (DCF) in the TSC – will be used for all capital contribution calculations related to the same upstream transmission asset and the same entity (i.e., the transmitter) should do it on behalf of all distributors and large distribution-connected customers. The transmitter would undertake the calculation of the capital contribution for each beneficiary connected to the distributor at the request of a host distributor.

Clarification was requested from a transmitter that the transmitter would also carry out the associated capital contribution *true-ups* that follow the determination of the initial capital contribution. That was the OEB's intent in order to ensure the following outcomes:

- The same entity is responsible for determining the initial capital contributions and the subsequent related true-ups
- Payment is based on *actual* consumption – not the initial load *forecast*
- Alignment with the treatment of transmission-connected distributors and industrial customers

The OEB has therefore further amended section 6.3.20 of the TSC to clarify that the transmitter will be responsible for the calculation of both the initial capital contribution and subsequent related *true-ups*.

Replacement of End-of-Life Transmission and Distribution Connection Assets (section 6.7.2 of TSC, new section 3.1.7 in DSC)

"Right-sizing" to Lower Capacity

Most of the written comments related to end-of-life (EOL) assets continued to focus primarily on the added scenario where a connection asset would be *right-sized* to a *lower* capacity and the OEB included an expectation in the September Notice for transmitters and distributors to right-size, where appropriate, based on utility judgment and consultation with affected customers. While there is increased acceptance that some utility judgment is required, stakeholders expressed the view that some form of further action by the OEB was needed to address the financial incentives for transmitters and distributors not to downsize.

The OEB shares those concerns. As a consequence, the OEB plans to address this issue (i.e., utility incentives to increase rate base) within a broader context. As set out in the OEB's *Strategic Blueprint*, an OEB objective is to change the regulatory framework so it "incentivizes utilities to focus on long-term value for money and least-cost solutions" by changing the approach to remunerating utilities.³

ADDRESSING INCONSISTENCIES AND GAPS BETWEEN THE TSC AND DSC

As noted in the August Notice, another purpose of these Code amendments is to address inconsistencies between the TSC and DSC. A key consideration in assessing the need for greater alignment between the Codes is the evolution of the distribution system, as the functions it performs are becoming more similar to those of the transmission system (e.g., many generators connecting, two-way flows on the system, customers becoming more active, etc.).

i) Utility Discretion – Cost Responsibility Code Provisions

The OEB expressed the view, in the August Notice, that the DSC provides distributors with considerable discretion relative to the TSC in relation to cost responsibility. The DSC presently states a distributor "may" *either* recover the costs via a capital contribution from a load customer that causes the need for a distribution investment (i.e., beneficiary pays) *or* recover the costs from all of its customers through its revenue requirement (i.e., non-beneficiary pays). The OEB therefore proposed to remove the latter option by replacing "may" with "shall" for several reasons – to better align with the TSC due to the evolution of the distribution system, ensure the beneficiary pays principle is applied and also achieve more consistent treatment of all load customers across all 67 distributors.

Some distributors continue to object to the removal of that discretion for the same reasons explained in the August Notice.

The OEB remains of the view these changes are necessary due to the distribution system evolving to be more like the transmission system. The OEB also remains concerned that the cost responsibility rules in the DSC would be applied differently across distributors if "may" was retained. In other words, a consumer's cost responsibility would depend on which distributor served them.

³ [OEB's Strategic Blueprint: Keeping Pace with an Evolving Energy Sector](#), page 11.

The OEB is therefore making the change from “may” to “shall” as reflected in the August Revised Proposed Amendments, except in two sections of the DSC, as discussed below.

In relation to section 3.1.5 of the DSC, the OEB has reconsidered the change from “may” to “shall”. That section contemplates distributors defining a basic connection for each *non-residential* customer rate class and recovering the cost of connection through its revenue requirement or a basic connection charge.

For residential customers, defining a basic connection is relatively straightforward as residential customers have connections that are similar in nature. On the other hand, for most distributors, the types of connections for non-residential customers vary significantly, which would make defining a ‘basic’ connection a challenge. The OEB is also of the view that, for large customers, an economic evaluation based on the specific circumstances of the customer will be more precise and therefore better reflect the beneficiary pays principle. The OEB has therefore decided to maintain distributor discretion in relation to this provision by retaining the term “may”.⁴

ii) Expansion Deposit Refunds (section 3.2.23 of the DSC)

In the August Notice, the OEB proposed to amend the sections of the DSC related to expansion deposits to be consistent with the TSC by making an expansion deposit a requirement (i.e., replacing “may” with “shall”), but only where a capital contribution is required. The expansion deposit would be returned over a period of up to five years.

The OEB remains of the view that distributor discretion to require an expansion deposit should be removed (where a capital contribution is required), as non-beneficiaries should not bear the risk of non-payment.

There also appeared to be some confusion in some of the stakeholder comments that the distributor is required to retain some portion of the expansion deposit for the full five-year period. The OEB notes that is not the intent under section 3.2.23 of the DSC. For example, if 100% of the customer’s forecast demand has materialized by the end of the second year, the distributor should be returning the entire expansion deposit at that time.

⁴ While section 3.2.20 was amended to change “may” to “shall” in relation to a distributor requiring an expansion deposit where a capital contribution is required, the OEB also maintained distributor discretion (i.e., retained “may”) where a capital contribution is not required.

iii) Bypass Compensation (new section 3.5.3 of DSC, section 11.2.3 of TSC)

In the August Revised Proposed Amendments, the OEB proposed including bypass compensation provisions in the DSC in a manner that is consistent with the TSC to address both *full* and *partial* bypass. The OEB is of the view this change is necessary to ensure all customers of a distributor are not required to pay the stranded cost associated with the bypassed assets when an individual load customer chooses to bypass a distributor-owned facility that was built to meet that customer's needs.

Two issues were identified in the comments, which are discussed below.

Potential Gaming Issue

A transmitter raised a concern related to customers with substantial variations in load within the context of how bypass compensation is calculated (that is, based on the customer's average peak load over the most recent three months following bypass). The transmitter provided an example of an actual customer's peak demand, which ranges from about 300 kW for 6½ months out of the year to about 6 MW for 5½ months. As a result, if such a customer is planning to bypass the system, there is a strong incentive to do so when their peak demand falls to 300 kW, as it would result in a 20-fold reduction in bypass compensation.

The OEB is of the view that a relatively minor change to the way bypass compensation is calculated is appropriate to address this potential 'gaming' issue, as the system needs to be built to accommodate a customer's peak demand (i.e., 6 MW). The OEB will retain a three-month period; however, rather than the *most recent* three months, the highest three-month *rolling average* of non-coincident peak demand over the *most recent 12 months* will be used.

Three years was suggested for the rolling average, however, no rationale was provided for extending it over such a long period. The OEB is of the view that one year is appropriate since the issue relates to variations within a year. In addition, where calculations over a period of time are required in OEB Codes, an annual calculation tends to be the norm.

The approach discussed above will better ensure the customer will pay an amount that is more representative of the actual capacity they have historically required (i.e., beneficiary pays). In doing so, it will better ensure all other customers of the transmitter

or distributor will not be negatively impacted due to bypass. Section 11.2.6 (of the TSC) and section 3.5.3 (of the DSC) will be amended to reflect this revision.

Clarification Requested

A transmitter identified that, in some cases, where a customer of a distributor bypasses a distribution asset, that customer will also bypass a transmission asset. A transmitter requested clarification that the transmitter can recover bypass compensation through the distributor where that occurs.

The OEB is of the view that a customer should provide bypass compensation in relation to all utility assets they have historically relied on to be supplied and then choose to bypass. Since only the distributor can bill the customer, it is appropriate for the transmitter to recover bypass compensation through the distributor. The OEB is of the view that this clarification does not require a code amendment.

That said, the transmitter will need to demonstrate that the customer also bypassed a transmission facility. The OEB notes that bypass of a distribution asset does not automatically mean a transmission asset has also been bypassed.

Relationship to Capacity Reserve Charge (CRC)

As noted in the August Notice, the OEB will clarify the relationship between the bypass compensation charge and the capacity reserve charge (CRC), once the OEB has reached a conclusion on the CRC as part of the C&I policy consultation on rate design.⁵

Other Code Amendments

In the August Notice, the OEB agreed with the suggestion to move the proposed new provision on upstream transmission connections (originally numbered 3.2.4A in the September Proposed Amendments) to a new, separate section of the DSC that is dedicated to upstream transmission connection assets. Accordingly, 3.2.4A has been renumbered as section 3.6.1, and will fall under the heading “Upstream Transmission Connections”. This will separate the cost responsibility rules related to *distribution expansions* (section 3.2) and *transmission connection* investments.

⁵ EB-2015-0043.

The OEB also made some other non-substantive housekeeping changes to clarify the intent of the related Code amendments.⁶ Those changes are identified (i.e., highlighted) in Attachments C and D.

2. *Anticipated Costs and Benefits*

The anticipated costs and benefits associated with the Final Code Amendments are primarily set out in the September Notice and the August Notice. Interested parties should refer to those Notices for further information in that regard.

The OEB believes that the revisions made to the August Revised Proposed Amendments, as described above in this Notice, will not result in material incremental costs to distributors, transmitters or ratepayers and will provide the following benefits:

- The revision to the bypass compensation provision will protect ratepayers from a consumer shifting the costs associated with a stranded asset due to gaming and therefore result in better alignment with the beneficiary pay principle
- The change from “shall” to “may” in relation to creating a basic connection for each non-residential rate class will avoid administrative costs for distributors
- The clarifications provided should increase regulatory predictability for transmitters and distributors

3. *Coming into Force*

All of the submissions from distributors suggested there was a need for a transition period before the DSC amendments come into force. However, few reasons were provided and only one submission included a suggested timeline, which was when the IESO’s Market Renewal project is implemented. The OEB is of the view that waiting until Market Renewal is implemented is unreasonable, as that is currently expected to be in 2023. Two groups of distributors also raised questions about the application of the Code amendments to the Supply to Essex County Transmission Reinforcement (SECTR) project.⁷

⁶ For example, “host” distributor was previously used in section 6.3.20 of the TSC. However, the intent was to capture all distributors that are directly connected to the transmission system and not all such distributors are also connected to an embedded distributor. The term “host” was therefore replaced with “transmission-connected” distributor to achieve the intent.

⁷ EB-2013-0421.

Reasons provided by distributors in relation to why they felt a transition period was necessary included the need to communicate the changes to large customers (5 MW) and embedded distributors who will be affected by a number of changes, and distributors will need to revise their Conditions of Service to reflect the amendments to the DSC.

The OEB notes this has been an extensive consultation process and it has been relatively clear what the OEB was planning to change in the Codes. AMPCO and other C&I customer representatives, such as Canadian Manufacturers and Exporters, have been engaged throughout this consultation process and the OEB expects their members have been informed. The materiality threshold was also increased to 5 MW, so the number of customers that are impacted is limited, and it is only a subset of those customers that are contemplating an increase in load that will be affected by the changes. The OEB also expects that embedded distributors, who may be affected by changes in cost responsibility, should have been following this consultation. Therefore, it is the OEB's view that distributors should be able to inform their customers in a relatively short time. The OEB also has 'gaming' concerns associated with delaying certain DSC changes such as the new Bypass Compensation and Capital Contribution requirements. Given the benefits that will come from greater predictability and consistency in relation to cost responsibility and the fact that transmitters, distributors and the affected customers have had considerable knowledge of the planned changes, the implementation of the Code amendments should not be delayed.

The only change that may have a material impact on computer information systems (CIS) is related to the rule changes for expansion deposits due to the broader group of customers for which collections and refunds will be required. The OEB will therefore provide distributors with three months to implement the expansion deposit related DSC amendments because of those CIS changes.

The OEB will also provide distributors with six months to revise their Conditions of Service. However, the OEB notes that, as the revisions to their Conditions of Service will reflect the amendments to the DSC, distributors will be expected to implement the DSC amendments before a revised Conditions of Service is issued in all cases where there is a new customer connection or increase in a load (i.e., expansion) for a customer above the 5 MW threshold.

As a result, with the exception of the DSC amendments related to expansion deposits, all of the final amendments to the TSC and the DSC, as set out in Attachments A and B, will come into force on the date that the final Code amendments are published on the OEB's website after having been made by the OEB. The amendments will apply on a go forward basis to all new projects (i.e., a signed agreement addressing cost responsibility has not yet been executed).⁸

C. Supplemental Proposed Amendment to the Distribution System Code

1. *Proposal to Revise Section 3.2.4 of the DSC*

Upstream Transmission Connection Investments – Treatment of Residential Subdivision Developers

The issue discussed below was not raised in the comments that were received. It was identified by OEB staff in responding to an Industry Relations Enquiry (IRE) and is related to residential developers within the context of upstream transmission investments and the requirement to provide a capital contribution.

For upstream transmission investments, under new section 3.6.1 (formerly section 3.2.4A) of the DSC, the requirement to provide a capital contribution has been focused on large C&I customers throughout this consultation, from the initial stage involving the working group. The focus of most of the discussion during the consultation process has been related to what MW threshold to use to determine which customers should be considered a large customer, for cost responsibility purposes, under the DSC. In that regard, the OEB decided on a 5 MW threshold, which was broadly supported. At the same time, residential developers have always paid a capital contribution in relation to distribution expansions under section 3.2.4 of the DSC.

Section 3.6.1 applies where the upstream *transmission* investment involves a transmitter-owned facility (e.g., transformation station) and developers would not pay a capital contribution (unless that section was to be broadened to also apply to residential developers). The new issue arises where a distributor owns the upstream *transmission* asset (e.g., the transformation station). Where that is the case, it becomes a deemed distribution asset and would therefore be considered a distribution expansion under

⁸ Terminology tends to differ at the transmission and distribution level. For distributors, it is the Connection Agreement. For transmitters, it is typically referred to as the Connection Cost Recovery Agreement (CCRA).

existing section 3.2.4 of the DSC. As noted above, under that section, residential developers typically pay a capital contribution.

The OEB has concluded there is a need to propose this supplemental DSC amendment because the OEB is of the view that it would not be appropriate to have *different* cost responsibility rules for residential developers under the *same* Code depending solely on what type of utility owns the *same* asset. In other words, ‘who owns’ the asset should not be the determinant of ‘who pays’ as set out below:

- Distributor-owned (developer pays) under section 3.2.4
- Transmitter-owned (developer does not pay) under section 3.6.1

The OEB considered two options to address this issue:

- Revise new section 3.6.1 to also apply to residential developers (as well as large customers)
- Revise existing section 3.2.4 to exempt residential developers from paying a capital contribution where the distribution expansion is an upstream transmission asset that has been deemed to be a distribution asset

The OEB is proposing the latter option above (i.e., exemption) because it aligns with the OEB’s intent to date, as set out in the two previous OEB’s Notices; that is, only large C&I customers within the distribution system should pay a capital contribution in relation to upstream transmission investments. The alternative – broadening section 3.6.1 to apply to residential developers – would deviate from that C&I customer focus, and the OEB expects that the developer will ultimately pass through most or all of the costs to residential consumers.

The OEB views this as a clarification to achieve alignment with new section 3.6.1 (i.e., only large C&I customers pay). The OEB is therefore proposing to amend section 3.2.4 to exempt residential developers from paying a capital contribution, where the *distribution expansion* involves an upstream *transmission* asset that has been *deemed* to be a *distribution* asset.

2. Anticipated Costs and Benefits

The primary anticipated benefit associated with the Proposed Supplemental Amendment is to ensure residential developers receive consistent treatment in relation

to cost responsibility regardless of which utility owns the asset. It may also avoid confusion among developers where they could be required to pay a capital contribution within the service area of one distributor and not in another distributor's service area and/or avoid investment decisions being made by developers based on that confusion (i.e., assumed no capital contribution due to prior experience).

The OEB does not anticipate any incremental costs. The Proposed Supplemental Amendment may avoid administrative costs for distributors in applying two different cost responsibility rules and customer service representatives addressing any developer confusion that may arise as discussed above.

3. *Coming Into Force*

The OEB proposes that the Supplemental Proposed Amendment to the DSC, as set out in Attachment E, come into force on the date that the final DSC amendment is published on the OEB's website after having been made by the OEB.

4. *Cost Awards*

The OEB will not be awarding costs for the purpose of commenting on the Proposed Supplemental Amendment to the DSC.

5. *Invitation to Comment*

Anyone interested in providing written comments on the Supplemental Proposed Amendment to the DSC is invited to submit them by **January 9, 2019**.

Your written comments must be received by the Board Secretary by **4:45 p.m.** on the required date. They must quote file number **EB-2016-0003** and include: *your name, address, telephone number and, where available, your e-mail address and fax number.*

One paper copy of your written comments must be provided and should be sent to:

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

The OEB requests that you make every effort to provide electronic copies of your written comments in a searchable/unrestricted Adobe Acrobat (PDF) format, and to submit them through the OEB's web portal at <https://www.pes.oeb.ca/eservice/>. A user ID is required to submit documents through the OEB's web portal. If you do not have a user ID, please visit the "e-filings services" webpage on the OEB's website at www.oeb.ca, and fill out a user ID password request. Participants are also requested to follow the document *naming conventions* and document *submission standards* outlined in the document entitled "[RESS Document Preparation – A Quick Guide](#)", which is also found on the e-filing services webpage. If the OEB's web portal is not available, electronic copies of your written comments may be provided by e-mail at boardsec@oeb.ca.

Those that do not have internet access should provide a USB memory stick containing their written comments in PDF format.

If the written comment is from a private citizen (i.e., not a lawyer representing a client, not a consultant representing a client or organization, not an individual in an organization that represents the interests of consumers or other groups, and not an individual from a regulated entity), the OEB will remove any personal (i.e., not business) contact information from those written comments (i.e., address, fax number, phone number, and e-mail address) before making the written comment available for viewing at the OEB's offices or posting it on the OEB's website. However, the private citizen's name and the content of the written comment will be available for viewing at the OEB's offices and will be placed on the OEB's website.

This Notice, including the Final Amendments to the TSC and DSC set out in Attachments A and B, respectively, and the Supplemental Proposed Amendment to the DSC set out in Attachment E (and all related written comments received by the OEB), will be available for public viewing on the OEB's web site at www.oeb.ca and at the OEB's office during normal business hours.

If you have any questions regarding the Final Code Amendments or the Supplemental Proposed Amendment to the DSC, as described in this Notice, please contact Chris Cincar at Chris.Cincar@oeb.ca or at 416-440-7696. The OEB's toll free number is 1-888-632-6273.

DATED at Toronto, **December 18, 2018**

ONTARIO ENERGY BOARD

Original signed by

Kirsten Walli
Board Secretary

Attachments:

Attachment A: Final Amendments to the Transmission System Code

Attachment B: Final Amendments to the Distribution System Code

Attachment C: Comparison Version of Final Amendments relative to the current
Transmission System Code

Attachment D: Comparison Version of Final Amendments relative to the current
Distribution System Code

Attachment E: Supplemental Proposed Amendment to the Distribution System Code

Attachment A
to
Notice of Amendments to Codes and Notice of Proposal to Amend a Code

December 18, 2018

EB-2016-0003

**Final Amendments to the
Transmission System Code (TSC)**

Note: The text of the amendments is set out in italics below, for ease of identification only.

1. Sections 6.3.12 and 6.3.13 of the TSC are amended by replacing the word “For” at the beginning of each section with “Subject to section 6.3.18, for”.
2. Sections 6.3.14 and 6.3.15 of the TSC are amended by replacing the word “Where” at the beginning of each sentence with “Subject to section 6.3.18, where”.
3. Section 6.3.14 of the TSC is further amended by deleting the word “relative” before “length” in paragraph (b), and adding “in proportion to the length of line being shared by the customers” after “customer”.
4. Section 6.3.15 of the TSC is further amended by deleting the word “relative” before “length” in paragraph (b), and adding “in proportion to the length of line being shared by the customers” after “customer”.
5. Section 6.3.16 of the TSC is replaced with the following:

6.3.16 Subject to section 6.3.18, 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 incremental rated peak output of each generation facility, the non-coincident incremental peak load requirements 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.

6. Section 6.3.17A of the TSC is replaced with the following:

6.3.17A For the purposes of section 6.3.17, the transmitter shall determine the amount of:

(a) *the refund to the initial customer 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 revised attributed cost (which will be determined using the methodology set out in section 6.3.14, 6.3.15 or 6.3.16, as applicable); and*

(b) *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 except for load (which will be based on the subsequent customer's load forecast for the remainder of the economic evaluation period) and attributed cost (which will be determined using the methodology set out in section 6.3.14, 6.3.15 or 6.3.16, as applicable).*

7. The following new sections 6.3.18, 6.3.18A, 6.3.19 and 6.3.20 are added to the TSC immediately after section 6.3.17A:

6.3.18 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 the new or modified connection facility will also address a broader network system need, the transmitter shall determine the proportional benefit and the related attribution of costs between the triggering customer(s), collectively, and the network pool. The transmitter shall then attribute the collective triggering customer costs to each triggering customer(s) in accordance with the methodology set out in section 6.3.12, 6.3.13, 6.3.14, 6.3.15 or 6.3.16, as applicable.

6.3.18A Where section 6.3.18 applies, the transmitter shall apply to the Board for approval of the attribution of costs between the triggering 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 customer(s).

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 unless a longer period is approved by the Board. Where a distributor provides the capital contribution in installments, the transmitter shall charge interest on the unpaid balance at the Board's prescribed construction work in progress (CWIP) rate which is updated quarterly and published on the Board's 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.

6.3.20 For the purposes of section 3.6.1 of the Distribution System Code, the transmitter shall, upon the request of a transmission-connected distributor, calculate the capital contribution amount for each distributor and each distribution-connected large load customer with a non-coincident peak demand exceeding 5 MW that contributes to the need for a new or modified transmitter-owned connection facility using the methodology and inputs described in Appendix 5 of this Code. The transmitter shall calculate any true-ups in respect of each capital contribution in accordance with the true-up provisions of section 6.5.

8. The heading of section 6.7 of the TSC is replaced with the following:

6.7 REPLACEMENT AND RELOCATION OF EXISTING CONNECTION FACILITIES

9. Section 6.7.2 of the TSC is replaced with the following:

6.7.2 Where a transmitter-owned connection facility has reached its end-of-life and is planned to be retired and replacement with a new connection facility is determined to be the optimal solution, the transmitter shall undertake an assessment, in consultation with any affected customers, to determine the appropriate capacity of the replacement connection facility. Where the asset is replaced, the transmitter shall either:

(a) not recover a capital contribution from a customer to replace that connection facility, where the new facility is the same capacity or lower capacity; or

(b) recover a capital contribution from a customer to replace the connection facility, where the customer requires additional capacity. The capital contribution shall be limited to the incremental cost relative to the cost of a like-for-like replacement facility.

10. The following new section 6.7.2A is added to the TSC immediately after section 6.7.2:

6.7.2A Where a transmitter-owned connection facility has not reached its end-of-life and is replaced at the request of a customer, the transmitter shall recover a capital contribution from the customer. The capital contribution shall be equal to the remaining net book value of the replaced asset plus the advancement cost.

11. Sections 6.7.5 to 6.7.11 of the TSC are revoked. (Note: these sections, with some modifications, are renumbered as sections 11.2.4 to 11.2.10 of the TSC – see below.)

12. Section 11.2.1 of the TSC is replaced with the following:

11.2.1 A transmitter shall require bypass compensation from a customer if:

- (a) the customer disconnects its load facility from the transmitter's connection facilities and connects that facility to a generation facility or to another load facility that is not owned by the transmitter such that both the load facility and a generation facility are connected to the transmitter's transmission facilities on that customer's side of the connection point and the transmitter will no longer receive line connection or transformation connection rate revenues in relation to that disconnected facility; or*
- (b) the customer, while retaining its connection to the transmitter's transmission system, also connects its load facility to a generation facility or to another load facility that is not owned by the transmitter such that the customer reduces its load served directly by the transmitter's transmission system, and the line connection or transformation connection rate revenues in relation to that facility will be reduced.*

The transmitter shall calculate bypass compensation using the methodology set out in section 11.2.6.

13. The following new sections 11.2.4 to 11.2.10 are added to the TSC immediately after section 11.2.3:

11.2.4 When a load customer provides its own connection facility to serve new load or transfers new load to the connection facility of another person, the transmitter shall not require bypass compensation from that customer.

11.2.5 Subject to sections 6.7.2, 11.2.6 and 11.2.7, for all or a portion of existing load a load customer may bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, provided that the load customer compensates the transmitter.

11.2.6 For the purposes of sections 11.2.1 and 11.2.5, but subject to section 11.2.7, the transmitter shall calculate bypass compensation by first multiplying the net book value of the bypassed connection facility, including a salvage credit and reasonable removal and environmental remediation costs, if applicable, by the bypassed capacity on the relevant connection facility. The transmitter shall then divide the resulting figure by the total normal supply capacity of the bypassed connection facility. For purposes of this calculation:

- (a) the bypassed capacity on the relevant connection facility shall be equal to the difference between the customer's existing load on that connection facility at the time of bypass and the highest*

rolling three-month average of the customer's non-coincident peak demand in the twelve-month period following the date on which bypass occurred; and

- (b) the normal supply capacity of the bypassed connection facility shall be determined by the transmitter in accordance with the Board-approved procedure referred to in section 6.2.7.*

11.2.7 Where an economic evaluation, including an economic evaluation referred to in section 6.3.9 or 6.3.17A, was conducted by a transmitter for a load customer in relation to a connection facility on the basis of a load forecast, a transmitter shall not require bypass compensation from a customer under section 11.2.5 in relation to any load that represents that customer's contracted capacity, during the related economic evaluation period.

11.2.8 A transmitter should avoid overloading a connection facility above its total normal supply capacity. Where a connection facility has been overloaded, and a customer transfers the overload to its own connection facility or to the connection facility of another person, the transmitter shall not require bypass compensation from that customer.

11.2.9 A transmitter shall promptly notify the Board upon becoming aware that a load customer that is a distributor intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person.

11.2.10 Where a transmitter becomes aware that a load customer intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, the transmitter shall promptly notify all other load customers served by the connection facility that is intended to be bypassed.

Attachment B
to
Notice of Amendments to Codes and Notice of Proposal to Amend a Code

December 18, 2018

EB-2016-0003

**Final Amendments to the
Distribution System Code (DSC)**

Note: The text of the amendments is set out in italics below, for ease of identification only.

1. Section 1.2 of the DSC is amended by replacing the definition of “customer” with the following:

“customer” means a generator or consumer whose facilities are connected to or are intended to be connected to a distributor’s distribution system. This includes developers of residential or commercial sub-divisions. For the purposes of section 3 of this Code (except section 3.3), an embedded distributor is deemed to be a customer;

2. Section 1.2 of the DSC is amended by replacing the definition of “embedded distributor” with the following:

“embedded distributor” means a distributor that is provided electricity by a host distributor;

3. Section 1.2 of the DSC is amended by replacing the word “the” with “a” in the definition of “host distributor”.

4. Section 1.2 of the DSC is amended by adding the following new definition in alphabetical order:

“distributor-owned asset” means an asset owned by a distributor other than an asset installed as part of a basic connection;

5. Section 1.7 of the DSC is amended by adding the following paragraph at the end of the section:

The amendments to sections 3.2.20, 3.2.21, 3.2.23 and 3.2.24 made by the Board on December 18, 2018 come into force on March 18, 2019.

6. Section 3 of the DSC is amended by adding the following new section 3.0 before section 3.1:

3.0 For the purposes of section 3 of this Code (except section 3.3), an embedded distributor is deemed to be a customer.

7. Section 3.1 of the DSC is amended by adding the following new sections 3.1.7, 3.1.7A, 3.1.8, 3.1.9, 3.1.10 and 3.1.11 after section 3.1.6:

3.1.7 Where a distributor-owned asset has reached its end-of-life and is planned to be retired and replacement is determined to be the optimal solution, the distributor shall undertake an assessment to determine the appropriate capacity of the replacement asset. Where the asset is a distribution station that is connected to the transmission system or a distribution line that connects a load customer with a non-coincident peak demand that is equal to or greater than 5 MW, that assessment shall be undertaken in consultation with the applicable customer(s). Where the asset is replaced, the distributor shall either:

- (a) not recover a capital contribution from a customer to replace that asset, where the new asset is the same capacity or lower capacity; or*
- (b) recover a capital contribution from a customer to replace the asset, where the customer requires additional capacity. The capital contribution shall be limited to the incremental cost relative to the cost of a like-for-like replacement asset.*

3.1.7A Where a distributor-owned asset has not reached its end-of-life and is replaced at the request of a customer, the distributor shall recover a capital contribution from the customer. The capital contribution shall be equal to the remaining net book value of the replaced asset plus the advancement cost.

3.1.8 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 arrangement between them, any investment in distribution assets, 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) 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*

- (b) a copy of the agreement between the connecting distributor and the facilitating distributor; and*
- (c) evidence that there is sufficient capacity on the transmission connection facility that connects the facilitating distributor to the transmission network to meet the forecast needs of both distributors (i.e., a transmission connection investment will not be required during the forecast period), by providing the amount of excess capacity on the transmission connection facility and a load forecast from each distributor.*

The agreement between the connecting distributor and the facilitating distributor shall ensure the customers of the facilitating distributor will not be negatively affected in any way due to the connection to the facilitating distributor's distribution system. In that regard, the agreement 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;*
- (b) any additional charges incurred by the facilitating distributor, due to the incremental load withdrawn from the transmission system by the connecting distributor, shall be recovered from the connecting distributor;*
- (c) any other costs that may be identified by the two distributors, for the purpose of cost recovery from the connecting distributor, including any investment required in existing distribution assets of the facilitating distributor; and*
- (d) the frequency by which the connecting distributor will provide an updated load forecast to the facilitating distributor.*

For the purpose of this section, the connecting distributor shall be considered a customer of facilitating distributor under section 3.1.

3.1.9 For a new or modified distributor-owned asset that will serve a mix of load customers and generator customers, a distributor shall attribute the cost to the customers on a pro-rata basis, based on the apportioned benefit, taking into account factors including the respective rated peak output of each generation facility and the respective non-coincident incremental peak load requirements of each load customer, and the relative line length in proportion to the line length being shared by the customers.

3.1.10 Where a customer requests the relocation of a distributor-owned asset, the distributor shall recover from that customer the cost of relocating that asset, except to the extent recovery is limited under law.

3.1.11 Where a distributor-owned asset is relocated in the absence of a customer request, the distributor shall bear the cost of relocating that asset.

8. Section 3.2.4 of the DSC is amended by replacing “may” with “shall”, adding “an embedded distributor or” before “a customer”, removing “or distributor” after “a generator”, and replacing “not exceed” with “be equal to”.
9. Section 3.2.5 of the DSC is amended by replacing “may” with “shall” and replacing “not exceed” with “be equal to”:
10. Section 3.2.20 of the DSC is amended by replacing “may” with “shall” in the first sentence of the section.
11. Section 3.2.21 of the DSC is amended by replacing “If an expansion deposit is collected under section 3.2.20, the expansion deposit” with “The expansion deposit collected under section 3.2.20”.
12. Section 3.2.23 of the DSC is replaced with the following:

3.2.23 Once the facilities are energized and subject to sections 3.2.22 and 3.2.24, the distributor shall annually return the percentage of the expansion deposit in proportion to the actual connections (for residential developments) or actual demand (for commercial and industrial developments) that materialized in that year (i.e., if twenty percent of the forecasted connections or demand materialized in that year, then the distributor shall return to the customer twenty percent of the expansion deposit). This annual calculation shall only be done for the duration of the five-year customer connection horizon. If at the end of the customer connection horizon the forecasted connections (for residential developments) or forecasted demand (for commercial and industrial developments) have not materialized, the distributor shall be allowed to retain the remaining portion of the expansion deposit.

13. Section 3.2.24 of the DSC is replaced with the following:

3.2.24 If the alternative bid option was chosen, the distributor shall retain at least ten percent of the expansion deposit for a warranty period for at least two years. This portion of the expansion deposit can be applied to any work required to repair the expansion facilities within the two year warranty period. The two year warranty period begins:

- (a) when the last forecasted connection in the expansion project materializes (for residential developments) or the last forecasted demand materializes (for commercial and industrial developments); or*
- (b) at the end of the five-year customer connection horizon,*

whichever is first. The distributor shall return any remaining portion of this part of the expansion deposit at the end of the two year warranty period.

14. Section 3.2.27 of the DSC is replaced with the following:

3.2.27 Unforecasted customers that connect to the distribution system during the five-year customer connection horizon will benefit from the earlier expansion and should contribute their share. In such an event, the initial contributors shall be entitled to a rebate from the distributor. A distributor shall collect from the unforecasted customers an amount equal to the rebate the distributor shall pay to the initial contributors. The amount of the rebate shall be determined as follows:

- (a) for a period of up to five years, the initial contributor shall be entitled to a rebate without interest, based on apportioned benefit for the remaining period; and*
- (b) the apportioned benefit shall be determined by considering such factors as the relative name-plate rated capacity of the generator customers, the relative non-coincident peak demand of the load customers and the relative line length in proportion to the line length being shared by the customers, as applicable.*

15. Section 3.4 of the DSC is revoked.

16. The following new sections 3.5 and 3.6 are added to the DSC, after the former section 3.4:

3.5 Bypass Compensation

3.5.1 A distributor shall require bypass compensation from a customer with a non-coincident peak demand that meets or exceeds 5 MW, if:

- (a) the customer disconnects its load facility from the distributor's distribution system and connects that facility to a generation facility or to another load facility that is not owned by the distributor such that the distributor will no longer receive rate revenues in relation to that disconnected facility; or*
- (b) the customer, while retaining its connection to the distributor's distribution system, also connects its load facility to a generation facility or to another load facility that is not owned by the distributor such that the customer reduces its load served directly by the distributor's distribution system, and the distributor's rate revenues in relation to that facility will be reduced.*

The distributor shall calculate bypass compensation using the methodology set out in section 3.5.3.

- 3.5.2 A distributor shall not require bypass compensation from any customer:
- (a) when a load customer provides its own facility to serve new load or transfers new load to the facility of another person;
 - (b) for any reduction in a customer's existing load served by the distributor's distribution system that the customer has demonstrated to the reasonable satisfaction of the distributor (such as by means of an energy study or audit) has resulted from embedded renewable generation, energy conservation, energy efficiency or load management activities; or
 - (c) where a distributor-owned asset has been overloaded, and a customer transfers the overload to its own facility or to the facility of another person.

3.5.3 For the purposes of section 3.5.1, the distributor shall calculate bypass compensation by first multiplying the net book value of the bypassed distributor-owned asset (including a salvage credit and reasonable removal and environmental remediation costs, if applicable) by the bypassed capacity on the relevant distributor-owned asset. The distributor shall then divide the resulting figure by the maximum amount of load that can be supplied by the bypassed distributor-owned asset. For the purposes of this calculation, the bypassed capacity on the relevant distributor-owned asset shall be equal to the difference between the customer's existing load on that distributor-owned asset at the time of bypass and the highest rolling three-month average of the customer's non-coincident peak demand in the twelve-month period following the date on which bypass occurred.

3.6 Upstream Transmission Connections

3.6.1 Where a distributor has been required to provide a capital contribution to a transmitter under the Transmission System Code for the purpose of a new or modified transmitter-owned connection facility, and the new or modified transmitter-owned connection facility 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 5 MW, the distributor shall require a capital contribution from all beneficiaries that contributed to the need for the new or modified transmitter-owned connection facility based on their respective incremental capacity requirements and the total project cost. The distributor shall request that the transmitter, who owns the connection facility, calculate the capital contribution amount for each beneficiary using the methodology and inputs described in Appendix 5 of the Transmission System Code.

17. Section 9.7.1 of the DSC is amended by adding the word “that is not a wholesale market participant” before the words “shall provide its host distributor”:¹

9.7.1 For each calendar month, beginning in 2016, an embedded distributor that 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.*

¹ As part of the OEB’s [Customer Service Rules Review consultation \(EB-2017-0183\)](#), the OEB is proposing to delete section 9.7.1 of the DSC.

Attachment C
to
Notice of Final Amendments to the
Transmission System Code and the Distribution System Code

December 18, 2018

EB-2016-0003

Comparison Version of Final Amendments
relative to the current Transmission System Code

Note: This attachment consolidates all three sets of amendments relative to the current Transmission System Code, with yellow shading indicating the initial revisions to the original September Proposed Amendments and grey shading indicating the final revisions set out in this Notice. Underlined text indicates additions and strikethrough text indicates deletions. Numbered titles are included for convenience of reference only.

Section 6.3 of the Transmission System Code is amended as follows:

6.3 COST RESPONSIBILITY FOR NEW AND MODIFIED CONNECTIONS

6.3.12 Subject to section 6.3.18A, F for a single generator customer, a transmitter shall attribute to that generator customer the cost of any required modification to a transmitter-owned connection facility required to serve the rated peak output of the generation facilities.

6.3.13 Subject to section 6.3.18A, F for a single load customer, a transmitter shall attribute to that load customer the cost of any new transmitter-owned connection facility or any modification to such connection facility required to serve that part of the customer's new load that exceeds the total normal supply capacity of any connection facility already serving that customer, as reasonably projected by the load forecast provided by the load customer or by such modified load forecast as may be agreed by the load customer and the transmitter.

6.3.14 Subject to section 6.3.18A, W where more than one generator customer triggers the need for a modification to a transmitter-owned connection facility,

a transmitter shall attribute the cost of the modification to those generator customers:

- (a) in accordance with such methodology as may be agreed between the transmitter and all such generator customers; or
- (b) failing such agreement, in proportion to the rated peak output of their respective generation facilities and, in the case of line connection facilities, taking into account the ~~relative~~-length of line used by each generator customer in proportion to the length of line being shared by the customers.

6.3.15 Subject to section 6.3.18A, Ww where more than one load customer triggers the need for a new or modified transmitter-owned connection facility, a transmitter shall attribute the cost to those load customers:

- (a) in accordance with such methodology as may be agreed between the transmitter and all such load customers; or
- (b) failing such agreement, in proportion to their respective non-coincident incremental peak load requirements, as reasonably projected by the load forecasts provided by each such load customer or by such modified load forecast as may be agreed by such load customer and the transmitter and, in the case of line connection facilities, taking into account the ~~relative~~-length of line used by each load customer in proportion to the length of line being shared by the customers.

6.3.16 Subject to section 6.3.18A, F 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 ~~the those~~ customers based on their proportional benefit, which the transmitter shall determine by considering such factors as the incremental rated peak output of each generation facility, the non-coincident incremental peak load requirements 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. ~~that cause the net incremental coincident peak flow on the connection facility that triggered the need for the new or modified connection facility. If and to the extent that the net incremental coincident peak flow is triggered by one or more load customers, the~~

~~transmitter shall attribute the cost to each of those triggering load customers in the manner set out in section 6.3.15. If and to the extent that the net incremental coincident peak flow was triggered by one or more generator customers, the transmitter shall attribute the cost to each of those triggering generator customers in the manner set out in section 6.3.14.~~

6.3.18A Where one or more **load** 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 the new or modified connection facility will also address a broader network system need, the transmitter shall determine the proportional benefit **and the related attribution of costs** between the triggering customer(s), **collectively**, and the network pool. ~~In doing so,~~ The transmitter shall **then** attribute the **collective triggering customer costs accordingly. The transmitter shall determine the capital contribution to be made by the to each triggering load customer(s) in accordance with the methodology set out in section 6.3.12, 6.3.13, 6.3.14, 6.3.15 or 6.3.16, as applicable 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.**

6.3.18AB Where section 6.3.18A applies, 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).

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 **unless a longer period is approved by the Board**. Where a distributor provides the capital contribution in installments, the transmitter shall charge interest on the unpaid balance at the **OEB's Board's** prescribed construction work in progress (CWIP) rate which is updated quarterly and published on the **OEB Board's** 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.

6.3.20 For the purposes of section 3.6.1 ~~3.2.4A~~ of the Distribution System Code, the transmitter shall, upon the request of a ~~host~~-transmission-connected distributor, calculate the capital contribution amount for each distributor and each distribution-connected large load customer with a non-coincident peak demand exceeding 5 MW that contributes to the need for a new or modified transmitter-owned connection facility using the methodology and inputs described in Appendix 5 of this Code. The transmitter shall calculate any true-ups in respect of each capital contribution in accordance with the true-up provisions of section 6.5.

Section 6.7 of the Transmission System Code is amended as follows:

6.7 REPLACEMENT ~~AND~~; RELOCATION ~~AND BYPASS-OF EXISTING~~ CONNECTION FACILITIES

6.7.2 Where a transmitter-owned connection facility has reached its end-of-life and is ~~planned to be~~ retired and replaced with a new connection facility ~~is determined to be the optimal solution~~, the transmitter shall undertake an assessment, in consultation with any affected customers, to determine the appropriate capacity of the replacement connection facility. ~~Where the asset is replaced, the~~The transmitter shall either:

- (a) ~~not recover a capital contribution from a customer to replace that connection facility, where the new facility is the same capacity or lower capacity; or~~
- (b) ~~recover a capital contribution from a customer to replace the connection facility, where the customer requires additional capacity. The capital contribution shall be limited to the incremental cost relative to the cost of a like-for-like replacement facility.~~

~~transmitter's connection facility is retired, the transmitter shall not recover a capital contribution from a customer to replace that connection facility.~~6.7.2A
Where a transmitter-owned connection facility has not reached its end-of-life and is replaced at the request of a customer, the transmitter shall recover a capital contribution from the customer. The capital contribution shall be equal to the remaining net book value of the replaced asset plus the advancement cost.

~~6.7.5 When a load customer provides its own connection facility to serve new load or transfers new load to the connection facility of another person, the transmitter shall not require bypass compensation from that customer~~

~~6.7.6 Subject to sections 6.7.2, 6.7.7 and 6.7.8, for all or a portion of existing load a load customer may bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, provided that the load customer compensates the transmitter.~~

~~6.7.7 For the purposes of sections 6.7.6 and 11.2.1, but subject to section 6.7.8, the transmitter shall calculate bypass compensation by first multiplying the net book value of the bypassed connection facility, including a salvage credit and reasonable removal and environmental remediation costs, if applicable, by the bypassed capacity on the relevant connection facility. The transmitter shall then divide the resulting figure by the total normal supply capacity of the bypassed connection facility. For purposes of this calculation:~~

~~(a) the bypassed capacity on the relevant connection facility shall be equal to the difference between the customer's existing load on that connection facility at the time of bypass and the customer's average monthly peak load in the three-month period following the date on which bypass occurred; and~~

~~(b) the normal supply capacity of the bypassed connection facility shall be determined by the transmitter in accordance with the Board-approved procedure referred to in section 6.2.7.~~

~~6.7.8 Where an economic evaluation, including an economic evaluation referred to in section 6.3.9 or 6.3.17A, was conducted by a transmitter for a load customer in relation to a connection facility on the basis of a load forecast, a transmitter shall not, during the economic evaluation period to which the economic evaluation relates, require bypass compensation from a customer under section 6.7.6 in relation to any load that represents that customer's contracted capacity.~~

~~6.7.9 A transmitter should avoid overloading a connection facility above its total normal supply capacity. Where a connection facility has been overloaded, and a customer transfers the overload to its own connection facility or to the~~

~~connection facility of another person, the transmitter shall not require bypass compensation from that customer.~~

~~6.7.10 A transmitter shall promptly notify the Board upon becoming aware that a load customer that is a distributor intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person.~~

~~6.7.11 Where a transmitter becomes aware that a load customer intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, the transmitter shall promptly notify all other load customers served by the connection facility that is intended to be bypassed.~~

Section 11.2 of the Transmission System Code is amended as follows: (Note: Sections 11.2.4 to 11.2.10 were formerly sections 6.7.5 to 6.7.11)

11. EMBEDDED GENERATION AND BYPASS COMPENSATION

11.2 BYPASS COMPENSATION

11.2.1 A transmitter shall require bypass compensation from a customer if:

- (a) the customer disconnects its load facility from the transmitter's connection facilities and subsequently connects that facility to a generation facility or to the another load facility that is not owned by the transmitter facilities of any person such that both the load facility and a generation facility are connected to the transmitter's transmission facilities on that customer's person's side of the connection point; and ~~(b)~~ the transmitter will no longer receive line connection or transformation connection rate revenues in relation to that disconnected facility; or

- (b) the customer, while retaining its connection to the transmitter's transmission system, also connects its load facility to a generation facility or to another load facility that is not owned by the transmitter such that the customer reduces its load served directly

by the transmitter's transmission system, and the line connection or transformation connection rate revenues in relation to that facility will be reduced.

The transmitter shall calculate bypass compensation using the methodology set out in section 11.2.6-6.7.7.

11.2.4 When a load customer provides its own connection facility to serve new load or transfers new load to the connection facility of another person, the transmitter shall not require bypass compensation from that customer.

11.2.5 Subject to sections 6.7.2, 11.2.6 and 11.2.7, for all or a portion of existing load a load customer may bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, provided that the load customer compensates the transmitter.

11.2.6 For the purposes of sections 11.2.1 and 11.2.5, but subject to section 11.2.7, the transmitter shall calculate bypass compensation by first multiplying the net book value of the bypassed connection facility, including a salvage credit and reasonable removal and environmental remediation costs, if applicable, by the bypassed capacity on the relevant connection facility. The transmitter shall then divide the resulting figure by the total normal supply capacity of the bypassed connection facility. For purposes of this calculation:

- (a) the bypassed capacity on the relevant connection facility shall be equal to the difference between the customer's existing load on that connection facility at the time of bypass and the ~~customer's~~ highest rolling three-month average of the customer's ~~monthly~~ non-coincident peak demand load in the ~~thre~~twelve-month period following the date on which bypass occurred; and
- (b) the normal supply capacity of the bypassed connection facility shall be determined by the transmitter in accordance with the Board-approved procedure referred to in section 6.2.7.

11.2.7 Where an economic evaluation, including an economic evaluation referred to in section 6.3.9 or 6.3.17A, was conducted by a transmitter for a load customer in relation to a connection facility on the basis of a load forecast, a transmitter shall not require bypass compensation from a customer under section 11.2.5 in relation to any load that represents that customer's contracted capacity, during the related economic evaluation period.

11.2.8 A transmitter should avoid overloading a connection facility above its total normal supply capacity. Where a connection facility has been overloaded, and a customer transfers the overload to its own connection facility or to the connection facility of another person, the transmitter shall not require bypass compensation from that customer.

11.2.9 A transmitter shall promptly notify the Board upon becoming aware that a load customer that is a distributor intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person.

11.2.10 Where a transmitter becomes aware that a load customer intends to bypass a transmitter-owned connection facility with its own connection facility or the connection facility of another person, the transmitter shall promptly notify all other load customers served by the connection facility that is intended to be bypassed.

Section 6.3.17A of the Transmission System Code is amended as follows:

6.3.17A For the purposes of section 6.3.17, the transmitter shall determine the amount of:

(a) 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

revised attributed cost (which will be determined using transmitter will then use the methodology set out in section 6.3.14, 6.3.15 or 6.3.16, as applicable); to allocate the revised capital contribution amount to the initial and subsequent customers. and

(b) The 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 except for load (which will be based on the subsequent customer's load forecast for the remainder of the economic evaluation period) and attributed cost (which will be determined using the methodology set out in section 6.3.14, 6.3.15 or 6.3.16, as applicable). 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.

Attachment D
to
Notice of Final Amendments to the
Transmission System Code and the Distribution System Code

December 18, 2018

EB-2016-0003

Comparison Version of Final Amendments
relative to the current Distribution System Code

Note: This attachment consolidates all three sets of amendments relative to the current Distribution System Code, with yellow shading indicating the initial revisions to the original September Proposed Amendments and grey shading indicating the final revisions set out in this Notice. Underlined text indicates additions and strikethrough text indicates deletions. Numbered titles are included for convenience of reference only.

The definition of “customer” in the Distribution System Code is amended as follows:

1 GENERAL AND ADMINISTRATIVE PROVISIONS

1.2 Definitions

“customer” means a ~~person that has contracted for or intends to contract for connection of a building or an embedded generation facility~~ generator, or consumer or embedded distributor whose facilities are connected to or are intended to be connected to a distributor’s distribution system. This includes developers of residential or commercial sub-divisions. For the purposes of section 3 of this Code (except section 3.3), an embedded distributor is deemed to be a customer;

The definitions of “embedded distributor” and “host distributor” in the Distribution System Code are amended as follows:

“embedded distributor” means a distributor ~~who is not a wholesale market participant~~ and that is provided electricity by a host distributor;

“host distributor” means ~~a the~~ distributor who provides electricity to an embedded distributor;

The definition of “distributor-owned asset” is added to the Distribution System Code as follows:

“distributor-owned asset” means an asset owned by a distributor other than an asset installed as part of a basic connection;

Section 1.7 of the DSC is amended by adding the following paragraph at the end of the section:

The amendments to sections 3.2.20, 3.2.21, 3.2.23 and 3.2.24 made by the Board on December 18, 2018 come into force on March 18, 2019.

Section 3 of the Distribution System Code is amended as follows:

3 CONNECTIONS AND EXPANSIONS

3.0 For the purposes of section 3 of this Code (except section 3.3), an embedded distributor is deemed to be a customer.

3.1 Connections

3.1.5 For non-residential customers other than micro-embedded generation facility customers, a distributor ~~may shall may~~ define a basic connection by rate class and recover the cost of connection either as part of its revenue requirement, or through a basic connection charge to the customer.

3.1.47 Where a distributor-owned asset has reached its end-of-life and is planned to be retired and replacement is determined to be the optimal solution, the distributor shall undertake an assessment, in consultation with the applicable customer(s), to determine the appropriate capacity of the replacement asset. Where the asset is a distribution station that is connected to the transmission system or a distribution line that connects a load customer with a non-coincident peak demand that is equal to or greater than 5 MW, that

assessment shall be undertaken in consultation with the applicable customer(s). Where the asset is replaced, the~~The~~ distributor shall either:

- (a) not recover a capital contribution from a customer to replace that asset, where the new asset is the same capacity or lower capacity; or
- (b) recover a capital contribution from a customer to replace the asset, where the customer requires additional capacity. The capital contribution shall be limited to the incremental cost relative to the cost of a like-for-like replacement asset.

3.1.47A Where a distributor-owned asset has not reached its end-of-life and is replaced at the request of a customer, the distributor shall recover a capital contribution from the customer. The capital contribution shall be equal to the remaining net book value of the replaced asset plus the advancement cost.

3.1.48 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 arrangement between them, any investment in distribution assets, 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) 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;
- (b) a copy of the agreement between the connecting distributor and the facilitating distributor; and
- (c) evidence that there is sufficient capacity on the transmission connection facility that connects the facilitating distributor to the transmission network to meet the forecast needs of both distributors (i.e., a transmission connection investment will not be required during the forecast period), by providing the amount of excess capacity on the transmission connection facility and a load forecast from each distributor.

The agreement between the connecting distributor and the facilitating distributor shall ensure the customers of the facilitating distributor will not be negatively affected in any way due to the connection to the facilitating distributor's distribution system. In that regard, the agreement 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;
- (b) any additional charges incurred by the facilitating distributor, due to the incremental load withdrawn from the transmission system by the connecting distributor, shall be recovered from the connecting distributor;
- (c) any other costs that may be identified by the two distributors, for the purpose of cost recovery from the connecting distributor, including any investment required in existing distribution assets of the facilitating distributor; and
- (d) the frequency by which the connecting distributor will provide an updated load forecast to the facilitating distributor.

For the purpose of this section, the connecting distributor shall be considered a customer of facilitating distributor under section 3.1.

3.1.49 For a new or modified distributor-owned asset that will serve a mix of load customers and generator customers, a distributor shall attribute the cost to the customers on a pro-rata basis, based on the apportioned benefit, taking into account factors including the respective rated peak output of each generation facility and the respective non-coincident incremental peak load requirements of each load customer, and the relative line length in proportion to the line length being shared by the customers.

3.1.210 Where a customer requests the relocation of a distributor-owned asset, the distributor shall recover from that customer the cost of relocating that asset connection facility, except to the extent recovery is limited under law.

3.1.211 Where a distributor-owned asset is relocated in the absence of a customer request, the distributor shall bear the cost of relocating that asset.

3.2 Expansions

3.2.4 The capital contribution that a distributor ~~may~~ shall charge an embedded distributor or a customer other than a generator ~~or distributor~~ to construct an expansion shall ~~not exceed~~ be equal to that customer's share of the difference between the present value of the projected capital costs and on-going maintenance costs for the facilities and the present value of the projected revenue for distribution services provided by those facilities. The methodology and inputs that a distributor shall use to calculate this amount are described in Appendix B.

The new section of the Distribution System Code initially numbered section 3.2.4A in the September Proposed Amendments has been renumbered as section 3.6.1.

~~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 transmitter-owned connection facility 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 35 MW, the distributor shall require a capital contribution from all beneficiaries that contributed to the need for the new or modified transmitter-owned connection facility modification based on their respective incremental capacity requirements and the total project cost. The distributor shall request that the transmitter, who owns the connection facility, calculate the capital contribution amount for each beneficiary using the methodology and inputs described in Appendix 5 of the Transmission System Code.~~

3.2.5 The capital contribution that a distributor ~~shall~~ may charge a generator to construct an expansion to connect a generation facility to the distributor's distribution system shall ~~not exceed~~ be equal to the generator's share of the present value of the projected capital costs and on-going maintenance costs for the facilities. Projected revenue and avoided costs from the generation

facility shall be assumed to be zero, unless otherwise determined by rates approved by the Board. The methodology and inputs that a distributor shall use to calculate this amount are described in Appendix B.

3.2.20 For expansions that require a capital contribution, a distributor ~~may~~ shall require the customer to provide an expansion deposit for up to 100% of the present value of the forecasted revenues as described in Appendix B. For expansions that do not require a capital contribution, a distributor may require the customer to provide an expansion deposit for up to 100% of the present value of the projected capital costs and on-going maintenance costs of the expansion project.

3.2.21 ~~If an~~ The expansion deposit ~~is~~ collected under section 3.2.20, ~~the expansion deposit~~ shall cover both the forecast risk (the risk associated with whether the projected revenue for the expansion will materialize as forecasted) and the asset risk (the risk associated with ensuring that the expansion is constructed, that it is completed to the proper design and technical standards and specifications, and that the facilities operate properly when energized) related to the expansion.

3.2.23 Once the facilities are energized and subject to sections 3.2.22 and 3.2.24, the distributor shall annually return the percentage of the expansion deposit in proportion to the actual connections (for residential developments) or actual demand (for commercial and industrial developments) that materialized in that year (i.e., if twenty percent of the forecasted connections or demand materialized in that year, then the distributor shall return to the customer twenty percent of the expansion deposit). This annual calculation shall only be done for the duration of the five-year customer connection horizon ~~15 years~~ (if the customer's non-coincident peak demand meets or exceeds 3 MW) or five years (if the customer's demand is lower than 3 MW) ~~as defined in~~ Appendix B. If at the end of the applicable customer connection horizon the forecasted connections (for residential developments) or forecasted demand (for commercial and industrial developments) have not materialized, the distributor shall be allowed to retain the remaining portion of the expansion deposit.

3.2.24 If the alternative bid option was chosen, the distributor ~~shall~~ may retain at least ~~up to~~ ten percent of the expansion deposit for a warranty period for at least

two years. This portion of the expansion deposit can be applied to any work required to repair the expansion facilities within the two year warranty period. The two year warranty period begins:

- (a) when the last forecasted connection in the expansion project materializes (for residential developments) or the last forecasted demand materializes (for commercial and industrial developments); or
- (b) at the end of the five-year customer connection horizon ~~— 15 years (if the customer's non-coincident peak demand meets or exceeds 3 MW) or five years (if the customer's demand is lower than 3 MW) as defined in Appendix B,~~

whichever is first. The distributor shall return any remaining portion of this part of the expansion deposit at the end of the two year warranty period.

3.2.27 Unforecasted customers that connect to the distribution system during the

five-year customer connection horizon ~~— 15 years (if the customer's non-coincident peak demand meets or exceeds 3 MW) or five years (if the customer's demand is lower than 3 MW) — as defined in Appendix B~~ will benefit from the earlier expansion and should contribute their share. In such an event, the initial contributors shall be entitled to a rebate from the distributor. A distributor shall collect from the unforecasted customers an amount equal to the rebate the distributor shall pay to the initial contributors. The amount of the rebate shall be determined as follows:

- (a) for a period of up to five years ~~15 years for a large load customer (i.e., a customer whose non-coincident peak demand meets or exceeds 3 MW) and five years for a customer whose non-coincident peak demand is below 3 MW the customer connection horizon as defined in Appendix B,~~ the initial contributor shall be entitled to a rebate without interest, based on apportioned benefit for the remaining period; and
- (b) the apportioned benefit shall be determined by considering such factors as the relative name-plate rated capacity of the generator customers ~~parties,~~ the relative non-coincident peak demand ~~load level~~ of the load customers ~~parties~~ and the relative line length in proportion to the line length being shared by both the customers ~~parties,~~ as applicable.

Section 3.4 is revoked (to reflect new sections 3.1.10 and 3.1.11 of the Distribution System Code which replace it):

~~3.4 Relocation of Plant~~

~~3.4.1 When requested to relocate distribution plant, a distributor shall exercise its rights and discharge its obligations in accordance with existing legislation such as the Public Service Works on Highways Act, regulations, formal agreements, easements and common law. In the absence of existing arrangements, a distributor is not obligated to relocate the plant. However, the distributor shall resolve the issue in a fair and reasonable manner. Resolution in a fair and reasonable manner shall include a response to the requesting party that explains the feasibility or infeasibility of the relocation and a fair and reasonable charge for relocation based on cost recovery principles.~~

The following new sections 3.5 and 3.6 are added to the Distribution System Code, after the former section 3.4:

3.5 Bypass Compensation

3.5.1 A distributor shall require bypass compensation from a customer with a non-coincident peak demand that meets or exceeds 5 MW, if:

- (a) the customer disconnects its load facility from the distributor's distribution system and subsequently connects that facility to a generation facility or to another load facility that is not owned by the distributorthe facilities of any customer such that the distributor will no longer receive rate revenues in relation to that disconnected facilityboth the load facility and a generation facility are connected to the distributor's distribution system on that customer's side of the connection point; and
or
- (b) the customer, while retaining its connection to the distributor's distribution system, also connects its load facility to a generation facility or to another load facility that is not owned by the distributor such that the customer reduces its load served directly by the distributor's distribution system, and the distributor's rate revenues in relation to that

facility will be reduced. ~~the distributor will no longer receive rate revenues in relation to that distribution asset.~~

The distributor shall calculate bypass compensation using the methodology set out in section 3.5.3.

3.5.2 A distributor shall not require bypass compensation from any customer:

- (a) when a load customer provides its own facility to serve new load or transfers new load to the facility of another person;
- (b) for any reduction in a customer's existing load served by the distributor's distribution system that the customer has demonstrated to the reasonable satisfaction of the distributor (such as by means of an energy study or audit) has resulted from embedded renewable generation, energy conservation, energy efficiency or load management activities; or
- (c) where a distributor-owned asset has been overloaded, and a customer transfers the overload to its own facility or to the facility of another person.

3.5.3 For the purposes of section 3.5.1, the distributor shall calculate bypass compensation by first multiplying the net book value of the bypassed distributor-owned asset (including a salvage credit and reasonable removal and environmental remediation costs, if applicable) by the bypassed capacity on the relevant distributor-owned asset. The distributor shall then divide the resulting figure by the maximum amount of load that can be supplied by the bypassed distributor-owned asset. For the purposes of this calculation, the bypassed capacity on the relevant distributor-owned asset shall be equal to the difference between the customer's existing load on that distributor-owned asset at the time of bypass and the ~~customer's~~ highest rolling three-month average of the customer's ~~monthly~~ non-coincident peak demand ~~load~~ in the ~~three~~ twelve-month period following the date on which bypass occurred.

3.6 Upstream Transmission Connections

~~3.2.4A~~3.6.1 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 transmitter-owned connection facility 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 35 MW, the distributor shall require a capital contribution from all beneficiaries that contributed to the need for the new or modified transmitter-owned connection facility modification based on their respective incremental capacity requirements and the total project cost. The distributor shall request that the transmitter, who owns the connection facility, calculate the capital contribution amount for each beneficiary using the methodology and inputs described in Appendix 5 of the Transmission System Code.

Section 9.7.1 of the Distribution System Code is amended as follows:¹

9.7 Reporting Requirements for Embedded Distributors

9.7.1 For each calendar month, beginning in 2016, an embedded distributor, ~~that~~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.

¹ As part of the OEB's [Customer Service Rules Review consultation \(EB-2017-0183\)](#), the OEB is proposing to delete section 9.7.1 of the DSC.

Attachment E
to
Notice of Amendments to Codes and Notice of Proposal to Amend a Code

December 18, 2018

EB-2016-0003

Note: This attachment sets out the proposed amendment relative to the current Distribution System Code. Underlined text indicates proposed additions and strikethrough text indicates proposed deletions. Numbered titles are included for convenience of reference only.

Supplemental Proposed Amendment to the Distribution System Code

Section 3.2.4 of the Distribution System Code is amended as follows:

3.2.4 The capital contribution that a distributor shall charge an embedded distributor or a customer other than a generator or a residential developer to construct an expansion shall be equal to that customer's share of the difference between the present value of the projected capital costs and on-going maintenance costs for the facilities and the present value of the projected revenue for distribution services provided by those facilities. The methodology and inputs that a distributor shall use to calculate this amount are described in Appendix B.