ISO Tariff – Section 8
Construction Contributions for Connection Projects

Applicability

1 This section applies to a **market participant** who has requested or is receiving **system access service** under:

(a) Rate DTS, *Demand Transmission Service*;

(b) Rate PSC, *Primary Service Credit*; or

(c) Rate STS, *Supply Transmission Service*.

Connection Costs

2 The **ISO** must determine the costs of a connection project for a **market participant** to be those costs reasonably associated with facilities that:

(a) a **legal owner** of a **transmission facility** owns and operates;

(b) are required in order to:

(i) provide **system access service** to a new **point of delivery** or **point of supply**; or

(ii) increase the capacity of or improve **system access service** to an existing **point of delivery** or **point of supply**; and

(c) are reasonably required to meet the **market participant**'s:

(i) **demand** and supply forecast; and

(ii) **reliability** and operating requirements.

Classification of Participant-Related and System-Related Costs

3(1) All costs of a connection project will be classified as either participant-related or system-related.

(2) Participant-related costs will be those costs related to a contiguous connection project including costs associated with:

(a) the connection substation for the **point of delivery** or **point of supply**, including in out line configurations, where required;

(b) new radial transmission lines, including double-radial configurations, with only one (1) transmission source from the **transmission system** to the connection substation;

(c) a share of existing **transmission facilities** that were constructed to connect another **market participant**, where the existing facilities originally began **commercial operation** within the past twenty (20) years and where the share is determined in accordance with subsection 3 of section 9 of the **ISO tariff**;

(d) line moves or burials of existing transmission line;

(e) communication at the **point of delivery** or **point of supply**;

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(f) communication enhancements required at the nearest substation with communications equipment to allow direct communication between it and the connection substation;

(g) breakers and associated equipment required for the connection of the new radial transmission line to an existing substation;

(h) salvage labour required to remove existing **transmission facilities** to allow the installation of new or replacement facilities for a connection project, except where the cost of the removed facilities is treated as a capital maintenance cost by the **owner** of the **transmission facility**;

(i) changes to protection systems, equipment or settings related to the addition of a **generating unit** on an **electric distribution system** served through the connection substation;

(j) a **remedial action scheme**, if required;

(k) a phasor measurement unit, if required;

(l) the advancement of **transmission facilities** included as part of a critical transmission development or regional **transmission system** project under subsection 3(3)(b) below, calculated as the difference between the present values of the capital costs of the advanced and the as-planned facilities using the discount rate provided in subsection 11 below;

(m) facilities previously classified as system-related under subsection 3(3)(c) below and now reclassified as participant-related to meet the requirements of the connection project; and

(n) other facilities required to complete the **market participant**'s connection, including **transmission facilities** required to enable the **market participant** to meet all relevant technical requirements for the connection project.

(3) System-related costs will be those costs related to a connection project including non contiguous components of the project and any costs associated with:

(a) looped **transmission facilities**, which are facilities that increase the number of electrical paths between any two (2) substations, excluding the substation serving the **market participant** and which exclude any new radial transmission line;

(b) radial **transmission facilities** which, within five (5) years of **commercial operation**, are planned to become looped as part of a critical transmission development or regional **transmission system** project:

(i) in the **ISO**'s most recent long-term **transmission system** plan;

(ii) in a **needs identification document** filed with the **Commission**; or

(iii) as the **ISO** reasonably expects will be required in the future;

and

(c) **transmission facilities** in excess of the minimum size required to serve the **market participant** where, in the opinion of the **ISO**, economics or system planning support the development of such facilities.

Facilities in Excess of Good Electric Industry Practice

4 A **market participant** must pay, as part of the **construction contribution**, any participant-related costs of facilities which the **ISO** deems, in its opinion, to be in excess of those required by **good electric industry practice**.

Valuation of Facilities for Contribution Determination

5(1) The **ISO** must generally determine connection project costs based on the replacement costs new value of equipment, which is the current cost of similar new equipment having the nearest equivalent capability to the equipment being valued.

(2) The **ISO** must, when a connection project involves the installation of a transformer that replaces a smaller transformer which was removed from service at a substation, determine connection project costs by:

(a) reducing the participant-related costs for the connection project by the replacement cost new of the removed transformer when the **legal owner** of the **transmission facility** either:

(i) deems the transformer which is removed to be re-deployable for use at another substation or suitable for use as an operating spare; or

(ii) treats the cost of the transformer which is removed as a capital maintenance cost;

or

(b) not reducing the participant-related costs in any other circumstances including when the **legal owner** of the **transmission facility** scraps the transformer which is removed without treating its cost as a capital maintenance cost.

Allocation of Costs to Market Participants

6(1) The **ISO** must allocate to the **market participant** at the substation at which **system access service** is provided the balance of participant-related costs remaining after:

(a) the exclusion of costs, if any, under subsection 4 above reflecting facilities in excess of those required by **good electric industry practice**; and

(b) the reduction of costs, if any, under subsection 5 above reflecting replacement of a transformer removed from service.

(2) The **ISO** must allocate the participant-related costs determined in subsection 6(1) above among **market participants** receiving **system access service** at a single substation, which services may be solely under Rate DTS, solely under Rate STS or under a combination of both.

(3) The **ISO** must allocate the participant-related costs referred to in subsections 6(1) and 6(2) above to each **market participant** by multiplying those costs by the average **substation fraction** for the **market participant** determined in accordance with subsection 3(3) of section 9 of the **ISO tariff**, *Changes to System Access Service After Energization*.

(4) The **ISO** must deem costs allocated to a **market participant** taking service under Rate DTS to be **demand**-related costs.

(5) The **ISO** must deem costs allocated to a **market participant** taking service under Rate STS to be supply-related costs.

Determination of Construction Contribution

7(1) The **ISO** must calculate the **construction contribution** in accordance with the **construction contribution** provisions of the **ISO tariff** in effect on the date on which the **Commission** issues permit and licence for the connection project.

(2) A **market participant** must pay **construction contribution** amounts to the **legal owner** of the **transmission facility** in accordance with the **financial obligation** provisions of section 5 of the **ISO tariff**, *Financial Obligations for Connection Projects*.

(3) The **ISO** must calculate the **construction contribution**:

(a) for a **market participant** receiving service under Rate DTS, as the **demand**-related costs less the local investment determined under subsection 8 below.

(b) for a **market participant** receiving service under Rate STS, as the supply-related costs.

(4) A **market participant** receiving service under Rate STS must also pay the **ISO** any **legal owner**'s contribution for a **generating unit** or an **aggregated generating facility** required under section 10 of the **ISO tariff**, *Generating Unit Owner's Contribution*.

Determination of Local Investment

8(1) The **ISO** must calculate the maximal local investment:

(a) based on the **contract capacity** and investment term set out in the **system access service** agreement for a connection project for a **market participant** taking service under Rate DTS or under Rate DTS with Rate PSC;

(b) excluding any **contract capacity** transferred from another **point of delivery**; and

(c) using an investment term from five (5) to twenty (20) years inclusive, commencing on the date of **commercial operation**.

(2) The **ISO** must calculate the maximum local investment for a connection project for a new **point of delivery** as the sum of annual amounts for each year in the investment term by adding the products of the values from each of rows (c) through (g) of the table below, where the product for a row is calculated by multiplying:

(a) the **substation fraction** or **contract capacity**, as applicable, from column A; and

(b) the investment amounts from column B or column C, as applicable.

Column A	Column B	Column C
Tier	Investment for Service Under Rate DTS	Investment for Service Under Rate DTS with Rate PSC
(c) **Substation fraction** (for new **points of delivery** only)	$79 900/year	$16 780/year
(d) First (7.5 × **substation fraction**) MW of **contract capacity**	$32 350/MW/year	$6 790/MW/year
(e) Next (9.5 × **substation fraction**) MW of **contract capacity**	$20 250/MW/year	$4 250/MW/year
(f) Next (23 × **substation fraction**) MW of **contract capacity**	$14 150/MW/year	$2 970/MW/year

Column A	Column B	Column C
(g) All remaining MW of **contract capacity**	$9 150/MW/year	$0/MW/year

(3) The **ISO** must calculate the maximum local investment for a connection project that accommodates a **contract capacity** increase at an existing **point of delivery** using:

(a) the **contract capacity** representing the incremental **contract capacity** since the most recent change in **construction contribution** at the **point of delivery**;

(b) the **substation fraction** based on **contract capacities** after the increase;

(c) the existing **contract capacity** to establish the initial tier in which investment becomes available for the incremental **contract capacity**; and

(d) investment available from subsequent tiers, as appropriate, where the sum of existing and incremental **contract capacities** exceeds the remaining MW in the initial tier.

(4) The **ISO** must calculate the maximum local investment for a connection project that includes increases or decreases to **contract capacity** over the investment term as the sum of the investment for each incremental amount of **contract capacity**, to be:

(a) calculated in accordance with subsections 8(2) and 8(3) above, based on each increment of **contract capacity** and the years for which each increment is contracted, and

(b) discounted from the beginning of the first **month** in which the increment of **contract capacity** exists back to the date of **commercial operation** of the connection project, using the discount rate provided in subsection 11 below.

(5) The **ISO** must determine the maximum local investment as the lesser of:

(a) the amount calculated in subsection 8(2), 8(3) or 8(4) above; or

(b) the **demand**-related costs.

Operations and Maintenance

9(1) A **market participant** taking service under Rate DTS must pay, as part of the **construction contribution**, an operations and maintenance charge to be added to any participant-related costs of facilities which are deemed to be in excess of those required by **good electric industry practice** in subsection 4 above.

(2) The **market participant** must estimate and the **ISO** must agree to the operations and maintenance charge calculated:

(a) as the present value of the full incremental maintenance cost, incremental operations cost, and overheads associated with the operations and maintenance of the facilities which are deemed to be in excess of those required by **good electric industry practice**,

(b) over the useful life of those facilities or twenty (20) years, whichever is less.

(3) The **market participant** must use the discount rate provided in subsection 11 below in the present value calculation.

Limitations

10 The **ISO** may exercise discretion in the application of the **construction contribution** provisions in the **ISO tariff**, including the determination of costs to be system-related in certain circumstances that might, under strict application of the **construction contribution** provisions, have been classified as participant-related.

Discount Rate

11(1) The **ISO** must determine the discount rate applicable to the calculation of **construction contributions** under this section 8 of the **ISO tariff** and payments in lieu of notice under section 9 of the **ISO tariff** as:

$$\text{discount rate} = \left[(1-\text{E})\times(\text{YLD}+1\%)\right]+\left(\frac{\text{E}\times\text{ROE}}{1-\text{T}}\right)$$

where:

(a) E is equal to the **Commission**-approved equity ratio applicable to the **legal owner** of **transmission facilities**, as amended from time to time;

(b) YLD is equal to the yield on 30-year Government of Canada bonds;

(c) ROE is equal to the **Commission**-approved rate of return on equity applicable to the **legal owner** of the **transmission facilities**, as amended from time to time; and

(d) T is equal to the combined federal and provincial income tax rate applicable to the **legal owner** of the **transmission facilities**.

(2) The **ISO** must use zero (0) as the tax rate T in subsection 11(1) above for a **legal owner** of **transmission facilities** that does not pay income tax, including a non-income tax paying municipal **legal owner** of **transmission facilities**.

Miscellaneous

12(1) The **ISO** must make reasonable efforts to ensure that, where **transmission facilities** must be relocated, the party causing the relocation pays all reasonable costs associated with the relocation.

(2) The **ISO** must, where new facilities between adjacent **balancing authority areas** are required, allocate the costs of such facilities to the **ISO** and to the party responsible for costs in the other **balancing authority area** based on the extent to which each benefits directly from the facilities.

Revision History

Effective	Description
2019-01-01	Updated investment levels, as approved in **Commission** Decision 24036-D01-2018 issued on December 18, 2018.
2018-01-01	Updated investment levels, as approved in **Commission** Decision 23065-D01-2017 issued on November 28, 2017.
2017-01-01	Updated investment levels, as approved on an interim refundable basis in **Commission** Decision 22093-D01-2016 issued on December 2, 2016.
2016-04-01	Updated investment levels, as approved in **Commission** Decision 21302-D01-2016 issued on March 31, 2016.
2016-01-01	Updated investment levels, as approved in **Commission** Decision 20753-D02-2015 issued on December 21, 2015.
2015-07-01	Updated investment levels, as approved in **Commission** Decision 3473-D01-2015 issued on June 17, 2015 except for subsection 3 which remains as approved in **Commission** Decision 2011-275 issued on June 24, 2011
2013-10-01	Updated investment levels, as approved on an interim refundable basis in **Commission** Decision 2013-325 issued on August 28, 2013 and on a final basis in **Commission** Decision 2014-242 issued on August 21, 2014 except for subsection 3 which remains as approved in **Commission** Decision 2011-275 issued on June 24, 2011.
2011-07-01	Revised and reformatted all subsections, as approved in **Commission** Decision 2011-275 issued on June 24, 2011.