

Benefits (Avoided Costs) Issues

Distributors' Avoided Costs

Distributors' Avoided Capacity Costs

Background

Customers that build new Load Displacement Generation (LDG) may provide benefits to the Distributor serving them by allowing the Distributor to avoid or defer having to build additional distribution capacity (e.g. feeders, transformers) in order to be able to deliver more electricity to their customers.

Issue

Do customers with new LDG provide benefits to Distributors in the form of avoiding or deferring having to build additional distribution capacity?

Alternatives

Customers with new LDG allow Distributors to avoid or defer building additional distribution capacity:

1. Yes, customer specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, the Distributor will have to determine if the presence of the customer with new LDG results in the avoidance or deferment of building additional distribution capacity.

Rationale

Distributors are responsible for developing their asset management plans and are in the best position to be able to determine if their plans are impacted by the presence of customers with new LDG that would allow the Distributor to avoid or defer building additional distribution capacity.

To the extent that the Distributor is able to determine that:

- Avoidance or deferment of building of distribution assets occurs,
- it is significant, and
- can be quantified (measured),

then the customer with new LDG should receive a credit reflecting the avoided distribution capital costs and the credit would be applied against the charges incurred by the Distributor in serving the customer with new LDG.

Possible Implementation

- The customer would have to bring to the attention of the serving Distributor the fact that it intends to build a new generation facility and would need to provide all the necessary information to the Distributor.
- The Distributor would need to determine if the new generation causes the Distributor to change its asset management plan resulting in deferring or avoiding building distribution assets.
- If there is deferral or avoidance, the Distributor would have to determine if the deferral or avoidance can be quantified and calculate a value (avoided distribution capacity costs).
- The amount of avoided distribution costs would have to be approved by the OEB, would be recovered from all the Distributor's customers and could be paid by the Distributor to the customer providing the new generation as a credit to the Standby rates for LDG.

Distributors' Line Losses

Background

Customers that have new Load Displacement Generation (LDG) may provide benefits to the Distributor serving them by reducing the Distributor's line losses incurred in delivering electricity to customers.

Issue

Do customers with new LDG provide benefits to Distributors in the form of lower distribution line losses?

Alternatives

Customers with new LDG allow Distributors to have lower line losses when delivering electricity to its customers:

1. Yes, customer specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, there is no benefit in the form of reduced distribution line losses. The customer with new LDG will directly benefit

by avoiding having to pay for distribution losses for the amount of self generation it uses.

Rationale

Distribution losses are based on the average losses incurred by the Distributor in delivering electricity to all its customers in its serving territory. The presence of an additional customer in the Distributor's territory and its impact on the average Distribution Loss factor is expected to be insignificant and would also be difficult to quantify, if it occurs.

The benefit of avoided Distribution losses is seen by the customer with new LDG in the form of not paying for Distribution losses for the amount of power it generates and that it uses itself.

Distributors' Pass-Through Charges

Background

Customers that have new Load Displacement Generation (LDG) may provide benefits to the Distributor serving them by reducing the pass-through Transmission charges that Distributors pay the IESO for the electricity being delivered to their customers.

Issue

Do customers with new LDG provide benefits to Distributors in the form of lower pass-through transmission charges?

Alternatives

Customers with new LDG allow Distributors to have lower pass-through transmission charges when delivering electricity to its customers:

1. Yes, customers specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, and subject to any outcomes of the review of the Direct Benefits policy, the Distributor will have to determine if the presence of the customer with new LDG results in lower pass-through transmission charges. If the lower charges can be quantified and are significant from the customer's perspective, then a mechanism should be established to return the difference recorded in the variance account to the customer with new LDG.

Rationale

A customer that generates its own electricity will avoid paying Transmission charges related to the amount of new electricity generated. The customer would be responsible

for the costs of transmitting its own electricity from its own generator to the point where it is used.

The Distributor would incur lower Transmission charges from the IESO, since the Distributor is purchasing less electricity from the IESO than what would have been originally forecast when establishing Retail Transmission Service rates charged by the Distributor to its customers. At the same time, the Distributor will be collecting less Transmission related revenue from the customer with LDG than originally forecast when the Retail Transmission Service rates were approved by the OEB. Any difference between the lower payments by the Distributor to the IESO and the lower related revenue collected from the LDG customer would be captured in the Retail Settlement Variance Accounts (RSVA). The difference would be captured until the next time that the Retail Transmission Service rates are determined by the Distributor and are approved by the OEB. The difference, under current guidelines, is collected or refunded to all the Distributor’s customers.

At the time of the recalculation of these pass-through charges, the lower electricity requirements would be captured and there would no longer be a difference that would be captured in the variance accounts.

Possible Implementation

- The customer would have to bring to the attention of the serving Distributor the fact that a new generation facility is being operated after the Distributor’s pass-through charges have been approved by the OEB and would need to provide all the necessary information to the Distributor, (hourly generation data).
- The Distributor would need to determine if the new generation results in a difference in the amounts recorded in the RSVAs from what was forecast when pass-through charges were designed.
- If the difference can be measured, then the Distributor would need to calculate the amount and seek OEB approval at the time that the RSVAs are being cleared.
- The amount calculated would have to be approved by the OEB and would be paid out of the amounts recorded in the variance accounts by the Distributor to the customer providing the new generation.

Based on analysis of current data using a utility that has an LDG customer as an example:

Retail Transmission Service Rate	Customer A	Average all LDG	Customer B
Gross consumption	6.6 MW	6.4 MW	12.9 MW
Net Consumption	1.6 MW	3.1 MW	7.9 MW

Total monthly electricity bill	\$334,000		\$155,000		\$377,000	
Difference recorded in RSVA	\$1,500, 0.45%	or	\$1,000 0.6%	or	\$1,500 0.4%	or

Non-Distributors' (Upstream) Avoided Costs

Transmission Avoided Capacity Costs

Background

Customers that have new Load Displacement Generation (LDG) may provide benefits to the Transmission system by allowing Transmitters to avoid or defer having to build additional transmission capacity (e.g. high voltage lines, transformation) in order to be able to transmit more electricity to customers.

Issue

Do customers with new LDG provide benefits to the Transmission system in the form of avoiding or deferring having to build additional Transmission capacity?

Alternatives

Customers with new LDG allow the Transmission system to avoid or defer building additional capacity:

1. Yes, customer specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, any potential Transmission System benefit will have to be determined by the Transmission companies, that is if the presence of the customer with new LDG results in the avoidance or deferral of building additional transmission capacity.

Rationale

Transmission companies are responsible for developing their asset management plans and are in the best position to be able to determine if their plans are impacted by the presence of customer with new LDG that would allow the Transmission Company to avoid or defer building additional transmission capacity.

To the extent that the Transmission Company is able to determine that:

- the avoidance or deferral of building of transmission assets occurs,
- it is significant, and
- can be quantified (measured),

then the customer with LDG should receive a credit reflecting the avoided transmission costs and the credit would be a pass-through credit from the Distributor to the customer with LDG provided by the Transmission Company.

Possible Implementation

- The customer would have to bring to the attention of the serving Transmitter the fact that it intends to build a new generation facility and would need to provide all the necessary information to the Transmitter.
- The Transmitter would need to determine if the new generation causes the Transmitter to change its transmission asset management plan resulting in deferring or avoiding building transmission assets.
- If there is deferral or avoidance, the Transmitter would have to determine if the deferral or avoidance can be quantified and calculate a value (avoided transmission costs).
- The amount of avoided transmission costs would have to be approved by the OEB, would be recovered from all the Transmission customers and would be paid to the customer providing the new generation.

Avoided Transmission Losses, Ancillary Services

Background

Customers that have new Load Displacement Generation (LDG) may provide benefits to the Transmission System by reducing the Transmission losses incurred in transmitting electricity to customers and/or by providing Ancillary Services (Black Start, Regulation Service, Reactive Support and Voltage Control Service) to the Power System.

Issue

Do customers with new LDG provide benefits to the Transmission system in the form of lower Transmission losses and do they provide Ancillary Services (e.g. Black Start, Regulation Service, Reactive Support and Voltage Control Service) to the Power System?

Alternatives

Customers with new LDG allow the Transmission system to have lower transmission losses when transmitting electricity to customers and provide Ancillary Services to the Power System:

1. Yes, customer specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, there is no benefit in the form of lower Transmission Losses. The customer with new LDG will directly benefit by avoiding having to pay for transmission losses for the amount of self generation it uses.

The potential benefits resulting from providing Ancillary Services to the Power System from the new LDG will have to be determined by the IESO.

Rationale

Transmission losses are determined by the IESO. The presence of an additional customer in the Transmission system and its impact on Transmission Losses is expected to be insignificant and would also be difficult to quantify, if it occurs.

The benefit of avoided transmission losses is seen by the customer with new LDG in the form of not paying for Transmission losses for the amount of power it generates and that it uses itself.

The IESO is responsible for determining the appropriate Ancillary Services required by the Power System and are in the best position to be able to determine if Ancillary Services are provided by customers with new LDG.

To the extent that the IESO is able to determine that:

- Ancillary Services are provided as a result of the new generation by a customer,
- the associated changes are significant, and
- can be quantified (measured),

then the customer with new LDG should receive the value of the Ancillary Service provided by the new LDG from the IESO.

Possible Implementation

- The customer would have to bring to the attention of the IESO the fact that it intends to build a new generation facility and would need to provide all the necessary information to the IESO.
- The IESO would need to determine if the new generation provides Ancillary Services required by the Power System.
- If there are Ancillary Services provided, the IESO would have to determine if service can be quantified and calculate a value.
- The amount of Ancillary Services would have to be determined by the IESO and would be paid by the IESO to the customer providing the new generation.

Generation Capacity Avoided

Background

Customers that have new Load Displacement Generation (LDG) may provide benefits to the overall electricity system in the form of deferring or avoiding the need to provide additional electricity generation capacity required to satisfy electricity demand in Ontario.

Issue

Do customers with new LDG provide benefits to the electricity system overall in the form of deferred or avoided generation capacity requirements?

Alternatives

Customers with new LDG provide benefits to the overall electricity system in the form of avoided or deferred generation electricity capacity requirements:

1. Yes, customer specific; or
2. No

Elenchus Recommendation

Elenchus recommends that, for the purposes of the current OEB policy review on developing Standby rates to be used by Distributors in Ontario, any potential benefit in the form of avoided or deferred electricity generation capacity requirements will have to be determined by the OPA, that is if the presence of the customer with new LDG results in the OPA having to contract for less generation capacity requirements.

Rationale

The OPA is responsible for determining and contracting for the electricity capacity requirements needed in Ontario to satisfy electricity demand and are in the best position to be able to determine if generation capacity requirements are impacted by the presence of customers with new LDG.

To the extent that the OPA is able to determine that:

- Generation capacity requirements are avoided or are reduced as a result of the new generation provided by a customer,
- the associated changes are significant,
- can be quantified (measured), and
- have not already been reflected in a contract between the OPA and the generator

then the customer with new LDG should receive a credit reflecting the avoided generation capacity requirement resulting from having new LDG and the credit would be provided by the OPA to the customer with new LDG.

Possible Implementation

- The customer would have to bring to the attention of the OPA the fact that it intends to build a new generation facility and would need to provide all the necessary information to the OPA.
- The OPA would need to determine if the new generation causes it to change the generation capacity plan resulting in deferring or avoiding building generation capacity.

- If there is deferral or avoidance of generation capacity, the OPA would have to determine if the deferral or avoidance can be quantified and calculate a value (avoided generation capacity costs).
- The amount of avoided generation capacity costs would be paid by the OPA to the customer providing the new generation.