

1. Purpose

To review IESO's existing practices of intertie failure charges as well as possible occurrences of counter intuitive failure charges.

2. Intertie Transaction Failures

Due to the potential negative effects and reliability concerns of failed intertie transactions, an automatic settlement charge is applied to a participant who fails to flow an intertie transaction if the reason for failure was within the participant's control, as outlined below.

Intertie transaction failure charges are not applied when:

- The IESO curtails the transaction for reliability purposes
- Intertie limit reduction 'in hour'
- External ISO curtails the transaction for reliability purposes

The failure charges automatically apply when intertie transactions are failed for reasons such as:

- NERC tagging errors
- Failure by the Trader to acquire transmission service (except MISO real-time (RT) transactions)
- Bid/offer errors (such as input errors)
- Economic selection (the transaction is not scheduled in the other jurisdiction)
- Ramping capacity where separate acquisition is required (in jurisdictions like PJM and MISO, ramping capacity can be reserved. When this is not complete and is the reason for a transaction failure, the failure charge is applied)

Intertie transactions that fail to flow can have a significant impact on the IESO-controlled grid operations and on the IESO-administered markets. Some examples are:

- The IESO may have to replace a failed import with a more expensive domestic option, increasing the market costs and price.
- The IESO may have to take action to maintain system flows, as transactions are scheduled to balance not just supply and demand but also system limits.

3. Real-Time Import/Export Failure Charges

Import Failure Charge

The import failure charge is triggered when the real time price is greater than the pre-dispatch (PD) price during the hour of failure. This RT price increase can be related to import failures as other more expensive resources would be selected to replace the energy lost from the import

failure. The maximum amount of the import failure charge is capped at the PD Ontario market clearing price (MCP) for the MW failed.

The RT import failure charge is calculated with the following equation:

$$\text{MAX}(0, \text{RT Ont Price} + \text{PBAF} - \text{PD Ont Price}) \text{ MWh failed}$$

Where:

PBAF is the price bias adjustment factor (compensates for systemic differences between PD and RT price calculations, for example, use of peak demand in PD)

Export Failure Charge

The export failure charge is triggered when the real time price is less than the PD price during the hour of failure. This RT price decrease can be related to export failures as there is a reduction in demand to be served by the submitted offers. The maximum amount of the export failure charge is capped at the PD Ontario MCP for the MW failed.

The RT import failure charge is calculated with the following equation:

$$\text{MAX}(0, \text{PD Ont Price} - \text{RT Ont Price} - \text{PBAF}) \text{ MWh failed}$$

Where:

PBAF is the price bias adjustment factor

4. Counter Intuitive Failure Charge

Participants have suggested that counter intuitive failure charges refer to those charges that are applied to failed intertie transactions that have resulted in a "benefit" to the market. Some examples described by the participants of these occurrences are described below.

Counter Intuitive Failure Charge – Imports

An import transaction that was scheduled in PD fails to flow in real-time. Meanwhile, a generating unit that was supposed to be offline comes online after the last run of PD. This new generation results in a surplus baseload generation (SBG) situation in the Ontario market. The SBG situation may require manoeuvring of nuclear units or other actions determined by the IESO to minimize the excessive generation. However, in this case, the failed import transaction resulted in the IESO not having to take any actions to minimize SBG (a nuclear unit not needing to manoeuvre).

The failed import transaction may receive a failure charge.

Counter Intuitive Failure Charge – Exports

An export transaction that was scheduled in PD fails to flow in real-time. In addition, there is a loss of a generator after the final run of PD. This loss of generation would result in the IESO looking to go into control actions. However, the failed export transaction resulted in the IESO not having to use control actions to recover the lost generation.

The failed export transaction receives a failure charge even though it may have prevented the IESO from having to go into control actions to recover lost generation.

5. Analysis Performed

At the June 3, 2008 IJT meeting, the IESO stated that price-based criteria (price difference between pre-dispatch and real-time greater than a specific value) for reviewing failure charges will not be considered by the IESO as there were no occasions where a failure charge had been unreasonably applied.

Since that meeting, the IESO has looked at the following events which would result in a review of the appropriateness of the failure charge by the IESO:

- Export failure charges when the IESO is curtailing for adequacy or security (same hour, same interface)
- Export failure charges when there is a loss of a generator and real-time price decreases
- Import failure charges when there is a generation gain and real-time price increases

6. Conclusions and Recommendations

Counter Intuitive Failure Charge – Imports

In order for a market participant to receive an import failure charge in the example from section 4 above, the price in real-time must go up from the price in pre-dispatch (according to the failure charge formula). Because price is increasing in real-time, this situation is not indicative of SBG conditions and the failure charge is applied.

The IESO will not be using times of SBG as a criterion to waive an intertie failure charge.

Counter Intuitive Failure Charge – Exports

There are times when the IESO is curtailing for adequacy and a failed export was receiving a failure charge. With this example, however, there are also failed imports which are not receiving a failure charge when the IESO is curtailing for adequacy (as price is going down).

If the IESO is to consider using failures during times of adequacy as a criterion to waive a failure charge, the IESO will also look at failed imports during these times and apply a failure charge.

The IESO is looking for feedback on the counter intuitive export failure charge during times of adequacy, keeping in mind that the failed imports, which are currently not receiving a failure would receive one.