

Manual Adjustment to Interchange Schedules

Process & Implications

Agenda Item # 1

Intertie Trading Sub-committee

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Agenda

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Catalyst for this Discussion

Recent events (i.e. January 15th - Admin Pricing) have raised questions by Market Participants regarding the treatment of intertie transactions under various circumstances.

This presentation will:

- clarify the IMO's processes;
- solicit Market Participant (MP) feedback; and
- identify areas of potential change.

Mechanics of the Process

“The WHY’s & HOW’s”

- The IMO must maintain the reliability of the IMO controlled grid. The reliable coordination and operation of Ontario’s interconnections is critical to meeting that mandate.
- Under normal conditions the IMO uses the outcome of the hour ahead pre-dispatch (PD) schedule to set intertie transactions for the next hour. These outcomes are the foundation for a reliable and coordinated schedule.
- For a variety of reasons (which we will touch on) it is impossible to always use these PD results.
- The WHY’s and the HOW’s.....

The “WHY’s”

Why do we deviate from the Pre-dispatch schedule?

There are a variety of reasons why the IMO occasionally changes Interchange Schedules (IS) or transaction quantities. These include:

- Internal adequacy (i.e. the ability to meet OR/load requirements);
- Internal security (i.e. the ability to meet security limits);
- External adequacy or security curtailments (TLR’s & contingencies);
- Coordinated scheduling protocols (i.e. NY-IMO protocol);
- MP failure to successfully navigate adjacent markets; and/or
- Operating Reserve (OR) Activation

It should be noted that the vast majority of interventions are the direct result of:

1 - The NY-IMO protocol; and

2 - Failed Transactions.

The “HOW’s”

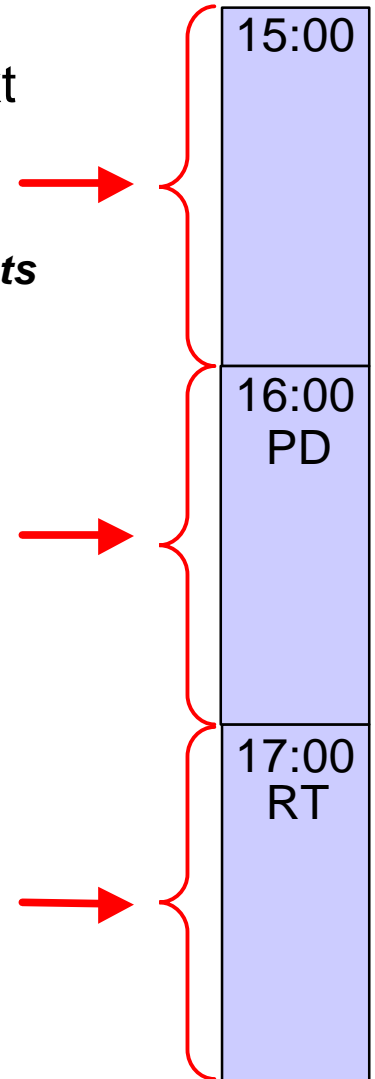
How are changes made, what does the MP see?

- Changes are made within the IMO’s Interchange Scheduler. This tool allows the IMO to modify the Dispatch Instructions or transaction quantity.
 - All changes are reflected in the real-time (RT) and/or PD constrained schedule (CS) depending on timing.
 - Some codes also result in changes to the unconstrained or market schedule (MS).
- Changes in IS require manual codification. Codes include:
 - OTH, TLRe, TLRi, ORA, NONE
- The timing of changes can be categorized into 3 critical areas:
 - prior to PD;
 - after the final PD but before RT; and
 - in RT (i.e. within the dispatch hour).

The “HOW’s”

How are changes made, what does the MP see? con't

- **Prior to PD:** Changes in this timeframe result in the next PD schedule reflecting the change in the applicable PD CS and/or MS. *Application of codes in this timeframe may only place restrictions on and not changes to scheduled amounts (i.e. NY-IMO protocol).*
- **After the final PD but before RT:** Changes will only be visible in RT for the dispatch hour.
- **In RT (i.e. within the dispatch hour):** This results in changes to schedules that are normally constant. The change is applied for the balance of the dispatch hour, unless superceded.



The “HOW’s” Code Functionality

- There are two types of codes that work in unison:
 - the “primary” code: OTH, TLRe, TLRi, ORA, or NONE; and
 - the “secondary” code: MAX, MIN or FIX.
- The secondary codes are related to operational requirements and are not the focus of the presentation. They restrict the future PD sequences from selecting more, and/or less MWs.
- The primary codes, which are the focus of the presentation, impact the IMO’s systems in other ways. They communicate to other IMO systems whether or not MCP, MS quantities, CSMC, etc. should be impacted and how.

The “HOW’s” Code Impacts

- Every time the IMO codes a transaction it reflects a decision that has been made regarding the Constrained Schedule (CS).
Therefore, ALL codes reflect a change or limitation on the CS (PD and/or RT).
- Depending on the circumstance the IMO can select codes that also impact the MS and CMSC.

CODE	IMPACT ON MS	IMPACT ON CMSC
TLRi	None	None (transaction still eligible for CMSC)
ORA	None	None (transaction still eligible for CMSC)
TLRe	Sets MS equal to CS	Cancels eligibility for this settlement
OTH	Sets MS equal to CS	Cancels eligibility for this settlement

The Philosophy for IMO actions

When required to modify transaction quantities the IMO is, by default, modifying the RT CS values. At the same time, the market is faced with the question of what to do with the equivalent RT MS values.

The IMO uses a set of principles to guide the development of codification procedures. These principles are based on a simple philosophy that states:

“The IMO will only take manual action to maintain the reliability of the power system and will minimize the disruption to the market, while remaining consistent with the market design fundamentals.”

The Principles of Codification

The IMO has developed 6 principles to guide the development of codification procedures.

P1 - The IMO will only intervene to alter PD generated transaction schedules for a given dispatch hour if:

- in the IMO's opinion, as a result of changing conditions, the RT schedules will not have sufficient resources available to maintain the reliable operation of the IMO controlled grid; or
- consistent with interconnection agreements and industry policy, requested to do so by another control area or reliability coordinator.

The Principles of Codification (con't)

P2 - IMO manual changes shall be consistent with the changes that would have occurred if the hour-ahead pre-dispatch sequences recognized the reliability concern.

P3 - To the extent practicable, the IMO shall limit manual intervention to an amount equal to the difference between the change in conditions and the RT capability of available internal resources to address that change.

P4 - The IMO shall, to the extent practicable, use the economic merit order of intertie transactions as the basis for determining which transactions to manually adjust.

The Principles of Codification (con't)

P5 - IMO manual intervention shall impact the same RT/PD schedule (constrained or unconstrained) that would have had insufficient resources as a result of the changing conditions, as noted in **P1**.

P6 - The MP whose transaction is affected by the IMO manual intervention shall be eligible for the same market compensation and be subject to the same risks as if the transaction was scheduled in the hour-ahead PD.*

** Compensation includes Energy/OR MCP, CMSC and IOG, while the risks include negative CMSC.*

Examples and Base Case Discussions

The IMO is required to manually intervene for a variety reasons, as previously indicated. The circumstances listed below will be discussed in detail:

- 1 - External Curtailment (Security or Adequacy)
- 2 - Failed Transaction
- 3 - NY-IMO Scheduling Protocol
- 4 - Internal Transmission Constraint
- 5 - Internal Adequacy
- 6 - Internal Transmission Constraint leads to Adequacy
- 7 - Export Recall (Not offered as OR)
- 8 - OR Activation
- 9 - Interconnection Contingency (partial or complete)
- 10 - Predicted Adequacy Concern for Future Hours

Examples and Base Case Discussions

Follow along with the accompanying worksheets.....

Potential Changes

There are proposed changes to two of the 10 Base case examples:

6 – Internal Transmission Constraint leads to Adequacy:

“The market’s current treatment needs to be reviewed and changes may result. The practical application of a process under these high stress situations needs to be factored into the outcome/revised process.”

8 – OR Activation:

“Modifications to the existing processes should be considered because the activation of OR is inconsistent with several of the defined principles.”

Next Steps

Following consultation the IMO plans the following actions, where appropriate:

- 1 - Update external manuals with more complete and up to date treatments;
- 2 - Modify internal procedures to reflect any changes;
- 3 - Update external training documentation.