



## Market Rule Amendment Submission

This form is used to request an amendment to, or clarification of, the *Market Rules*. Please complete the first four parts of this form and submit the completed form by email or fax to the following:

Email Address: [Rule.Amendments@ieso.ca](mailto:Rule.Amendments@ieso.ca)

Fax No.: (416) 506-2847 Attention: Market Rules Group

Subject: [Market Rule Amendment Submission](#)

All information submitted in this process will be used by the *IESO* solely in support of its obligations under the *Electricity Act, 1998*, the *Ontario Energy Board Act, 1998*, the *Market Rules* and associated policies, standards and procedures and its licence. All submitted information will be assigned the *confidentiality classification* of “Public” upon receipt. You should be aware that the *IESO* will *publish this amendment submission* if the *Technical Panel* determines it warrants consideration and may invite public comment.

Terms and acronyms used in this Form that are italicized have the meanings ascribed thereto in Chapter 11 of the *Market Rules*.

### PART 1 – SUBMITTER’S INFORMATION

Please enter contact information in full.	
Name: <u>IESO Staff</u>	
(if applicable) <i>Market Participant / Metering Service Provider</i> No. <sup>1</sup> : <u>n/a</u>	<i>Market Participant Class</i> : <u>n/a</u>
Telephone: <u>905-855-6464</u>	Fax: <u>905-855-6371</u>
E-mail Address: _____	

### PART 2 – MARKET RULE AMENDMENT SUBMISSION INFORMATION

Subject: <u>Enhanced Day-Ahead Commitment Process (EDAC)</u>	
Title: <u>Settlement Guarantees</u>	
Nature of Request (please indicate with x)	
<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion
<input type="checkbox"/> Addition	<input type="checkbox"/> Clarification
Chapter: <u>9</u>	Appendix: _____
Sections: <u>3.1, 3.8A, 3.8C, 3.8D (new), 3.8E (new), 3.9, 3.9E (new), 4.7D, 4.7E, 4.8</u>	
Sub-sections proposed for amending/clarifying: <u>Numerous</u>	

<sup>1</sup> This number is a maximum of 12 characters and does not include any spaces or underscore.

### PART 3 – DESCRIPTION OF THE ISSUE

Provide a brief description of the issue and reason for the proposed amendment. If possible, provide a qualitative and quantitative assessment of the impacts of the issue on you and the *IESO-administered markets*. Include the Chapter and Section number of the relevant *market rules*.

#### **Background on Enhanced Day-Ahead Commitment Process**

In 2007, the IESO initiated a study to assess how IESO day-ahead mechanisms might be amended to support anticipated changes in Ontario's electricity sector. The study addressed both current and future challenges including how to most efficiently integrate and optimize Ontario's changing infrastructure. The merits of various possible day-ahead mechanisms were studied and assessed under [Stakeholder Engagement Plan 21 \(SE-21\)](#).

Cost benefit analysis (CBA) techniques were used to help identify improvements to day-ahead mechanisms that would result in net benefits to the Province as a whole relative to the current day-ahead commitment process (DACP). The cost-benefit analysis included both IESO and stakeholder costs and compared them to benefits measured through overall market efficiency impacts.

The results of the analysis, described in "Day-Ahead Market Evolution Preliminary Assessment"<sup>1</sup> published on May 5th, 2008, identified an enhanced day-ahead commitment process (EDAC) with an energy forward market (EFM) as the most prudent choice for implementation.

Following a review of the Assessment with stakeholders, the IESO day-ahead team recommended, and the IESO Board of Directors agreed at its June 19, 2008 meeting, to proceed with a stepped approach for moving forward, starting with the design of the common elements of the differing options.

These common elements are:

- Optimization of commitment over the entire 24 hours of the next day;
- Use of multiple passes of the constrained algorithm to determine commitment and resource scheduling; and
- Three-part offers, i.e. the use of offers for energy supported by submitted 'fixed'<sup>2</sup> costs and technical data.

From the results of the preliminary work, the large majority of stakeholders and Stakeholder Advisory Committee (SAC) members concluded that the proposed design of the common elements, the principles behind the cost guarantees, and the inclusion of exports were acceptable because they would benefit the province. SAC indicated they would like to see these elements progress, while proceeding to review EFM alternatives on a separate timeline.

At its meeting on September 5, 2008 the IESO Board granted approval for the development of the common elements (described above) and delegated to the Audit Committee of the IESO Board the responsibility for oversight of the EDAC project.

On February 11, 2009 the IESO's Audit Committee approved version 1.0 of the EDAC Market Design and directed IESO staff and the Technical Panel to develop the market rule amendments necessary to implement the design.

The following design document outlines the design details for the common elements, export inclusion and day-ahead guarantees for both generators and importers:

<sup>1</sup> [http://www.ieso.ca/IESOweb/pubs/consult/se21/se21-20080505\\_DAM\\_Assessment\\_Report.pdf](http://www.ieso.ca/IESOweb/pubs/consult/se21/se21-20080505_DAM_Assessment_Report.pdf)

<sup>2</sup> Typically includes unit start-up and minimum generation costs (commonly referred to as 'fixed costs' although this may not meet the formal accounting definition of a fixed production cost).

## PART 3 – DESCRIPTION OF THE ISSUE

[http://www.ieso.ca/imoweb/pubs/consult/se21-edac/se21-20090206-EDAC\\_Market\\_Design\\_v1.pdf](http://www.ieso.ca/imoweb/pubs/consult/se21-edac/se21-20090206-EDAC_Market_Design_v1.pdf)

For further information on the EDAC calculation engine market rules please refer to:

MR-00348: Enhanced Day-Ahead Commitment Process (EDAC): 24 Hour Optimization and 3-part Offers at the following links: <http://www.ieso.ca/imoweb/pubs/mr2009/MR-00348-R00-R05.pdf> and <http://www.ieso.ca/imoweb/pubs/mr2009/MR-00348-R06.pdf>.

### **MR-00349 Overview**

MR-00349 features modifications to existing market rules and introduces new market rules in Chapter 9 to permit the settlement of version 1.0 of the EDAC Market Design. The key elements of the EDAC settlements design are described below:

#### **A New Day-Ahead Production Cost Guarantee (DA-PCG)**

The design of the Day-Ahead Production Cost Guarantee (DA-PCG) allows eligible dispatchable generation facilities guaranteed cost recovery if dispatched to produce in the real-time market when real-time revenue is insufficient to cover as-offered costs incorporated in schedules committed to day-ahead.

Commitments, schedules and DA-PCG will be based upon cost and technical information made available in advance of the day-ahead scheduling process.

In contrast to the existing DACP day-ahead generation cost guarantee (DA-GCG) program, with the implementation of EDAC, those eligible resources receiving day-ahead commitments and schedules cannot reject their commitment and can only remove themselves from day-ahead commitments through a withdrawal process.

The DA-PCG calculations:

- will consider the day-ahead constrained schedule for each start over the entire 24-hour dispatch day;
- will consider real-time energy-only schedules on a 5-minute interval basis for the lower of AQEI and real-time constrained schedule; and
- will be based on the total day-ahead schedules versus today's minimum loading point for MGBRT.

#### **The Derivation of Day-Ahead Production Cost Guarantees**

The proposed method for calculating the DA-PCG payments made to eligible dispatchable generators consists of five components:

1. Any shortfall in payment on the delivered real-time dispatch of the day-ahead constrained schedule will be based upon the real-time revenue received for that amount of energy in comparison with the costs as represented in the generator's day-ahead offer;
2. For the portion of day-ahead constrained schedule that is not implemented in the real-time dispatch schedule, the DA-PCG will guarantee the cost of arranging the delivery (where the real-time offer is less than the day-ahead offer), or subtract any gain (where the real-time offer is greater than the day-ahead offer);

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3. Any income from real-time CMSC included in a generator's day-ahead constrained schedule delivered in real-time will be used to reduce the DA-PCG payment; and
4. Any income from real-time operating reserve in a generator's day-ahead constrained schedule will be used to reduce the DA-PCG payment.
5. As offered value of bringing an off-line generator on-line to minimum loading point.

The DA-PCG payment is calculated as follows:

- DA-PCG payment = Component 1 + Component 2 – Component 3 – Component 4 + Component 5

If the DA-PCG payment result from this calculation is negative, the DA-PCG payment is equal to zero.

A market participant may withdraw their offers for their entire day-ahead schedule or may withdraw after starting but before completing their day-ahead schedule. In both cases, the market participant may or may not be eligible for the DA-PCG as follows:

- If the withdrawal was not within the market participant's control, the market participant is eligible for the DA-PCG for the hours not withdrawn. The market participant will not be assessed the Generator Withdrawal Charge.
- If the withdrawal was within the market participant's control, the market participant is not eligible for the DA-PCG. The market participant will be assessed the Generator Withdrawal Charge.

If the generation unit is de-committed, the market participant may or may not be eligible for the DA-PCG as follows:

- For de-commitment before the start of the day-ahead schedule, the IESO will not calculate the DA-PCG for the market participant. The market participant will not be assessed the Generator Withdrawal Charge.
- For de-commitment after the start of the day-ahead schedule, the IESO will calculate the DA-PCG incurred by the market participant prior to de-commitment. The market participant will not be assessed the Generator Withdrawal Charge.

De-commitment refers to the IESO removing the Minimum Loading Point constraint of a non-quick start generator from the system. It is neither a de-rate nor forced outage but a complete removal of the unit initiated by the IESO.

**A Modified Day-Ahead Intertie Offer Guarantee (DA-IOG)**

Like today's day-ahead processes, import offers will:

- remain voluntary and participating in the day-ahead process does not preclude real-time import offers which may be in addition to or may replace day-ahead import transactions.
- be committed in the selection of resources to serve the day-ahead forecasted load and in real-time, if the day-ahead forecast and resource dispatch is identical, that import should remain economic into real-time pre-dispatch and be appropriately selected to serve forecast real-time load.

The Day-Ahead Intertie Offer Guarantee (DA-IOG) gives importers a guaranteed cost recovery when

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real-time revenue is insufficient to cover as-offered costs to provide energy that was committed the day-ahead and that actually flowed in the real-time market.

#### The Derivation of Day-Ahead Intertie Offer Guarantees:

The design of DA-IOG is consistent with the principles of the DA-PCG and, for the most part, the existing design of the Day-Ahead Intertie Offer Guarantee Settlement Credit of the DACP.

1. Any shortfall in payment on the real-time import flow of the day-ahead constrained schedule will be based upon the real-time revenue received for that amount of energy in comparison with the costs submitted in the importer's day-ahead offer;
2. For the portion of day-ahead constrained schedule that is not implemented in the real-time dispatch schedule, the DA-IOG will guarantee the cost incurred of arranging the import (where the real-time offer is less than the day-ahead offer) or subtract any revenue gained (where the real-time offer is greater than the day-ahead offer); and
3. Any income from real-time CMSC included in an importer's day-ahead constrained schedule delivered in real-time will be used to reduce the DA-IOG payment.

#### Modifications to IOG Offset Mechanism

The IOG Offset mechanism as described in the current IESO market rules for Real-time Intertie Offer Guarantee and Intertie Offer Guarantee Offset must be revised to recognize the addition of exports into the day-ahead scheduling process and to recognize the difference in payments made to importers under the different options.

#### Financially Binding Status Eliminated

An exception to the intertie offer guarantee (IOG) offset process allows traders with financially binding status (FBS) to retain IOGs paid in respect of day-ahead import transactions which received a schedule in a neighbouring day-ahead market even when there are scheduled real-time exports out of Ontario in the same hour (called an implied wheel-through).

There will be no exceptions to the IOG offset process in EDAC. That is the current FBS will cease with the implementation and the consideration of whether a transaction has FBS status will be removed from the IOG Offset settlement process.

#### Modifications to Day-Ahead Import Failure Charge

Import transactions are scheduled in hour-ahead pre-dispatch using hour-ahead pre-dispatch price. Currently settlement failure charges for scheduled day-ahead import transactions that failed to get a schedule in whole or in part and then fail to flow in whole or in part in hour-ahead pre-dispatch are calculated based on real-time market clearing price (MCP). To better represent costs to the IESO-administered markets of import failures, the day-ahead failure charges, will be modified to use the hour-ahead pre-dispatch price instead of real-time MCP in the calculation. As well, a cap will be added to address the impact of offer changes between day-ahead and hour-ahead pre-dispatch.

Any proceeds collected under this modified Day-Ahead Import Failure Charge will be distributed back to the market through the Intertie Failure Charge Rebate.

The Intertie Failure Charge Reversal charge reverses the smaller of the Day-ahead Import Failure

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Charge and Real-time Import Failure charge when they are both applied to the same import transaction and will require a name change to Import Failure Charge Reversal. The calculation of this charge type does not change.

**New Day-Ahead Export Failure Charge**

The day-ahead export failure charge will be closely related to the real-time and day-ahead import transaction failure. The export failure charge applies to a scheduled day-ahead export that fails to be scheduled in whole or in part in hour-ahead pre-dispatch. Using the day-ahead and real-time import failure rules as a guide, if there is a real-time export failure charge and a day-ahead export failure charge applied to the same failed export transaction, the participant will be charged the larger of these two amounts. This is accomplished by applying both charges, and then applying a third charge to reverse the lesser charge. Any proceeds collected under the new Day-Ahead Export Failure Charge will be distributed back to the market through the Intertie Failure Charge Rebate.

A new Export Failure Charge Reversal reverses the smaller of the new Day-Ahead Export Failure Charge and Real-time Export Failure Charge when they are both applied to the same export transaction.

**New Day-Ahead Linked Wheel Failure Charge**

With the inclusion of day-ahead exports in EDAC, scheduling of linked wheels is available. As a result, a day-ahead linked wheel failure charge is introduced. This charge applies when the day-ahead linked wheel is not scheduled in the hour-ahead pre-dispatch and the trader does not have a bona-fide reason for the failure. While the failure of a day-ahead linked wheel does not directly impact the energy price as do the failure of non-linked imports and export transactions, a failed linked wheel could have displaced other transactions on the interties where the wheels were scheduled a day-ahead. In other words, the failed day-ahead wheel could have created congestion that limited the scheduling of other day-ahead transactions. Thus, the day-ahead linked wheel failure charge is to be assessed based on the cost of congestion between the interties where the wheeling transactions were scheduled. This cost of congestion is calculated as the spread of the day-ahead prices and real-time prices at the interties.

When the difference between a linked wheel's DA to PD-1 intertie price spread is positive, it is possible that a participant would have the incentive to allow the linked wheel transactions to fail in real-time, rather than in pre-dispatch as real-time failure charges would likely to be lower. Transactions that fail in real-time could have greater adverse impacts on reliability and the market because it is not possible to schedule other imports and exports in real-time. To remove this incentive, there will be an upper bound on the DA linked wheels failure charge to the minimum of the linked wheel failure charge and the maximum of the real-time import or export failure charge.

Any proceeds collected under the new Day-Ahead Linked Wheel Failure Charge will be distributed back to the market through the Intertie Failure Charge Rebate.

**PART 3 – DESCRIPTION OF THE ISSUE****New Generator Withdrawal Charge**

A Generator Withdrawal Charge for committed non-quick starts is a new charge and will be applied when these generators withdraw their commitment. If a market participant is eligible for a DA-PCG, and withdraws from the commitment in real-time then, depending on the reasons for the withdrawal, a Generator Withdrawal Charge may be assessed.

Market participants must notify the IESO of an intention to withdraw. The consequence of this action is assessed as follows for application of the withdrawal charge.

If:

- the withdrawal was within the market participant's control; and
- the withdrawal fails a price test (the results of this withdrawal did not provide a benefit to the market),

then the Generator Withdrawal Charge will be assessed.

The price used in the calculation of the Generator Withdrawal Charge is dependent on the time the notification of withdrawal was received by the IESO:

- a. If withdrawal notification is received at or before 4 hours prior to the first EDAC schedule hour in real-time (PD – 4), then the lesser of the pre-dispatch Ontario market clearing price and the real-time market clearing price is used for every hour withdrawn.
- b. If withdrawal notification is received later than PD-4, then the real-time market clearing price is used for every hour withdrawn.

If the market participant does not notify the IESO of their intent to withdraw and does not inject for the entire day-ahead scheduled period, the Generator Withdrawal Charge is assessed using the real-time market clearing price for each hour of the scheduled period.

If the market participant withdraws completely from their day-ahead schedule and the IESO removes the constraints applied to the unit, the market participant is not eligible to receive the DA-PCG. If the market participant does not notify the IESO of their intent to withdraw and does not inject for any interval in their day-ahead scheduled period, they are not eligible to receive the DA-PCG and will be assessed the withdrawal charge.

If a market participant synchronizes to the system and subsequently requests to withdraw from its commitment before the completion of its day-ahead commitment, withdrawal charges will be assessed and applied on the scheduled hours withdrawn. Any proceeds collected under the Generator Withdrawal Charge will be distributed back to the market through the new Generator Withdrawal Rebate charge.

**New, Modified and Unchanged Relevant Settlement Amounts (Charge Types)**

Settlement charges, including many settlement charges introduced to market participants in June 2006 for DACP, will be affected by the implementation of EDAC. While many of those charge types will remain, there will be a need to modify some of them and add new ones.

**PART 4 – PROPOSAL (BY SUBMITTER)**

Provide your proposed amendment. If possible, provide suggested wording of proposed amendment.

In order to put into effect the EDAC design in regards to settlements it is proposed to modify the following sections of Chapter 9 of the market rules.

Section 3 – Determination of Hourly Settlement Amounts

- Section 3.1.2A and section 3.1.2B – Day-Ahead Commitment Process Variables, Data, and Information
- Section 3.8A – Hourly Settlement Amounts for Intertie Offer Guarantees
- Section 3.8A.2 – Real-Time Intertie Offer Guarantee
- Section 3.8A.3 – Real-Time and Day-Ahead Intertie Offer Guarantee
- Section 3.8A.6 – Guarantee Settlement Credit Offset
- Section 3.8A.7 – Day-Ahead Intertie Offer Guarantee Adjustments
- Section 3.8C – Real-Time Import and Real-Time Export Failure Charges
- Section 3.8D (new) – Day-Export Failure Charge
- Section 3.8E (new) – Day-Ahead Linked Wheel Failure Charge
- Section 3.9E (new) – Withdrawal Charge

Section 4 – Non-Hourly Settlement Amounts

- Section 4.7D – Day-Ahead Generation Cost Guarantee
- Section 4.7E – Day-Ahead Fuel Cost Compensation Settlement Amount
- Section 4.8 – Additional Non-Hourly Settlement Amounts



**PART 5 – FOR IESO USE ONLY**

*Technical Panel Decision on Rule Amendment Submission:* Warrants consideration

MR Number: MR-00349

Date Submitted to *Technical Panel*: August 11, 1009

Accepted by *Technical Panel* as: (please indicate with x)

Date:

General       Urgent       Minor

August 18, 2009

Criteria for Acceptance: It identifies means to better enable the market to satisfy the market design principles.

Priority: High

Criteria for Assigning Priority: Pervasiveness of the problem.

Not Accepted (please indicate with x):

Clarification/Interpretation Required (please indicate with x):

*Technical Panel Minutes Reference:* 229-1

*Technical Panel Comments:* \_\_\_\_\_