



## 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@theIMO.com](mailto:Rule.Amendments@theIMO.com)  
 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 *IMO* 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 *IMO* 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

<b>Name: IMO Staff</b>	
(if applicable) <i>Market Participant / Metering Service Provider No.</i> <sup>1</sup> :	<i>Market Participant Class:</i>
<b>Telephone: 416-506-2801</b>	<b>Fax: 416-506-2847</b>
<b>Email Address: <a href="mailto:rule.amendments@theimo.com">rule.amendments@theimo.com</a></b>	

### PART 2 – MARKET RULE AMENDMENT SUBMISSION INFORMATION

<b>Subject: Day Ahead Market</b>
<b>Title: Offers, Bids and Data Input</b>
<b>Nature of request (please indicate with X): <input checked="" type="checkbox"/> Alteration <input type="checkbox"/> Deletion <input checked="" type="checkbox"/> Addition <input type="checkbox"/> Clarification</b>
<b>Chapter: 8 and 12                      Appendix:                      Sections: Ch. 8, s.2; Ch 12 s. 2</b>
<b>Sub-sections proposed for amending/clarifying :</b>

<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 *IMO-administered markets*. Include the Chapter and Section number of the relevant market rules.

In consultation with market participants and other stakeholders, the IMO has developed a high level design of a day-ahead market (DAM)<sup>1</sup>. The IMO Board has endorsed proceeding with the development of a day-ahead market and has directed the IMO to proceed with the detailed design and market rule amendments for the DAM consistent with the high-level design. Market rule amendments are needed to incorporate Bids, Offers and Data Input requirements for the day-ahead market. The following is a brief summary of the bids, offers and data input requirements for the DAM. The detailed design document<sup>2</sup> provides further information on this aspect of the DAM.

Market participant submission of DAM offers and bids, existing IMO Pre-Market processes and IMO data input (such as SSRs, SAA reports, load forecasts and security limits) all contribute to the input for the DAM calculation engine. These key data submission and input processes for the DAM are summarized as follows:

Market participant dispatch data submission processes for the DAM include all activities pertaining to the submissions of physical offers for energy and operating reserve and physical bids for energy, virtual offers and bids for energy. Market participants may also submit DAM physical bilateral contract data (PBC).

Market participant dispatch data submissions for the DAM also include schedules of energy supply for self-scheduling generation facilities including transitional scheduling generators, and forecasts of energy injection for intermittent generators.

IMO Pre-Market processes and data input include all functions to prepare, modify and validate data to be used by the unit commitment, constrained dispatch and unconstrained dispatch passes of the DAM calculation engine. These inputs for the DAM calculation engine are comparable to the inputs used for the RTM dispatch algorithm, with some additional input.

Additional IMO inputs may be required when a resource has been cycled “on” or “off” at the end of a DAM run dispatch day and its minimum required time in that cycled state has not been satisfied in that dispatch day. In this situation the remaining hours required will automatically be carried over to the next dispatch day’s DAM run. In circumstances when the cycles on or off from the DAM results differ from what actually happened in the real-time operation of the grid, the carry over of the remaining hours may need to be modified by the IMO to correctly reflect the initial conditions at the start of the next DAM run.

All DAM bids and offers and DAM physical bilateral contract data will be used by the Settlement process in the form that they were originally submitted by the market participant. Any modifications to bid/offer prices that might be made within various passes of the DAM calculation engine will not be used by the Settlement process.

<sup>1</sup> High Level design strawman IMO public web-site location:  
[http://www.theimo.com/imoweb/pubs/consult/mep/DAM\\_WG\\_Strawman-4\\_0.pdf](http://www.theimo.com/imoweb/pubs/consult/mep/DAM_WG_Strawman-4_0.pdf).

<sup>2</sup> DAM Detailed Design: Offers, Bids and Data Input:  
[http://www.theimo.com/imoweb/pubs/consult/mep/dam\\_wg\\_IMO\\_DES\\_0010\\_DAM\\_Offers-Bids-Data\\_Input.pdf](http://www.theimo.com/imoweb/pubs/consult/mep/dam_wg_IMO_DES_0010_DAM_Offers-Bids-Data_Input.pdf).

### PART 3 – DESCRIPTION OF THE ISSUE

The DAM uses both existing (including the ability to provide standing offers and bids) and new constructs for energy offers and bids. New constructs include multi-part and multi-hour physical energy offers and bids, multiple-block load bids, as well as virtual energy offers and bids.

Multi-part offers and bids allow the market participant to separate and recover fixed and variable costs associated with the offer of energy or bid for load-response, reflecting the physical limitations of a resource independent of the incremental or decremental energy cost. Multi-part offers and bids also allow these facilities to be optimally scheduled in a manner reflective of their physical limitations.

#### **Generation Offers**

Generation facilities may be registered in the IMO-Administered markets under two general types (one for dispatchable and one for non-dispatchable generation) with several sub-classifications.

Dispatchable generation sub-classifications include Quick Start Facilities, Hourly Committable Generation, Automatic Generation Control (AGC or Regulation) Generation<sup>3</sup>, and Reliability Must Run (RMR) Generation. The sub-classifications for non-dispatchable generation include Self-Scheduling Generation Facilities (SSG), Transitional Scheduling Generators (TSG), and Intermittent Generators (IG). The treatment of the sub-classes of non-dispatchable generation in the DAM is identical to dispatchable generation except that they cannot offer operating reserve. These non-dispatchable facilities will be able to offer into the DAM and receive financially binding schedules consistent with their offers. Similar to their current obligations for the real-time market, SSGs, TSGs and IGs will be required to submit schedules and forecasts of energy supply to the DAM. This represents a shift of that obligation from the real time to the DAM. The type of offer that can be made for a given generation facility is dependent on what classification the facility is registered as.

The new aspects of the offer construct within the DAM are summarized as follows:

- Multi-part offers include an incremental energy offer (that specifies the applicable time – hourly resolution - and up to 20 price/quantity pairs comparable to RTM offers), a minimum generation block (that specifies the minimum generation level in MWs and cost in \$/hour), and startup costs (\$/startup). Startup costs include three constructs: hour of the dispatch day for which the specified start-up costs would apply (would suit resources that cycle only once each day), time period elapsed in the dispatch day since the facility was last cycled off (would suit resources that cycle more than once each day), and no startup costs. All dispatchable generation and non-dispatchable generation may submit multi-part offers that will be validated against data provided for facility registration.

For example a multi-part offer could include an incremental energy offer, a minimum generation block, and an hourly start up cost. The incremental energy offer would specify the applicable time and up to 20 price(\$)/quantity(MW) pairs. The minimum generation block would specify the applicable time, the minimum generation level (MW), and the minimum generation cost (\$/hour). The hourly startup costs would specify the applicable time and startup costs (\$/start).

Market participants with generation facilities that have been designated as Hourly Committable Generation (HCG) may elect to declare themselves offering in as an HCG or a non-HCG resource for the DAM day. Offers specified when a resource has declared itself as an HCG will only be considered valid if the values specified for turnaround time, minimum run time and minimum

<sup>3</sup> Automatic Generation Control (AGC) generation cannot participate in the DAM for the hours that they are nominated to provide AGC. An alternative design to accommodate future AGC contracts which will allow AGC generation to participate in the DAM is currently being evaluated.

### **PART 3 – DESCRIPTION OF THE ISSUE**

down time are less than or equal to 1 hour. In addition the ramp rate up must also be sufficient to allow the resource to be ramped from zero to full output within 1 hour. An HCG eligible facility electing to offer as non-HCG for the DAM day will have its offers validated as any other generation facility.

#### **Load Bids**

Load facilities may be registered in the DAM under two general types (one for price-sensitive loads and one for price-responsive loads).

The new aspects of the bid construct within the DAM have been developed to meet the needs expressed by load participants and are summarized as follows:

- Market participants with price-sensitive loads can submit either single part hourly or multi-hour bids to consume energy. A multi-hour bid includes only 1 price/quantity pair. More than one multi-hour bid can be submitted for the day.
- Market participants with price-sensitive loads can register as a multiple-block load. This will allow a market participant with a single load facility with multiple discrete levels of load consumption to submit multiple day-ahead bids associated with a single delivery point. Only multi-hour bids with 1 price/quantity pair are permitted for each block of a price-sensitive multiple-block load.
- Market participants with price responsive load may submit multi-part bids that will include a decremental energy bid, a minimum load reduction amount and a load reduction cost.
- Market participants with price-responsive loads (dispatchable or non-dispatchable) can register as a multiple-block load. This will allow the market participant with a single load facility with multiple discrete levels of load reduction to submit multiple day-ahead bids associated with a single delivery point. The price-responsive multiple-block load bid will specify the applicable time for the bid, the number of consecutive hours required if it is committed, the load reduction cost for the block, and a single price/quantity pair..

A new generic load bidding construct will allow market participants to submit a combination of one price-responsive multi-part bid, a number of price-responsive multiple-block bids, one hourly or multi-hour price-sensitive bid, and a number of price-sensitive multiple-block bids for several load components registered at a single delivery point.

The new DAM offer and bid constructs for physical transactions will require IMO validation of those offers and bids against physical parameters for the generation and load facilities that are submitted as part the facility registration process. IMO validation of the bids for load components as part of the generic load bid construct will also be required.

#### **Boundary Entities**

Dispatch data for imports and exports of energy will consist of two constructs: single part hourly and single part multi-hour.

Hourly imports may be submitted as incremental energy offers and hourly exports may be submitted as decremental energy bids. Hourly imports and exports must specify the inertia and related source/sink, provide an identifier (i.e. a NERC tag), specify the applicable time for the offer/bid, and may contain up to 20 price/quantity pairs. Hourly imports and exports will be eligible to provide operating reserve.

### **PART 3 – DESCRIPTION OF THE ISSUE**

Multi-hour offers and bids must specify the intertie and related source/sink, provide an identifier such as a NERC tag and will allow the importer/exporter to indicate the quantity of energy they desire to sell/buy in every hour, the starting hour of the day they wish to offer/bid it, the number of consecutive hours that the energy must be scheduled and the minimum/maximum average price that must be realized across the number of hours for the energy to be scheduled. Multi-hour bids can only contain one price/quantity pair. More than one multi-hour offer or bid can be submitted for the day. Multi-hour offers and bids will not be eligible to provide operating reserve.

#### **Virtual Transactions**

Virtual transactions will allow authorized market participants to submit virtual offers to sell energy and virtual bids to buy energy in the Ontario zone without the expectation that they will physically supply or consume energy in real-time. Virtual transactions are expected to add liquidity to the DAM. Virtual offers for operating reserve are not allowed. Virtual transactions will only consist of incremental or decremental single-part bids/offers.

The new DAM offer and bid constructs for virtual transactions will involve validation of the total daily virtual trading volume against a virtual transaction trading limit elected by the market participant. The IMO will authorize this trading limit based on the posting of the required prudential support.

#### **Physical Bilateral Contract Data**

Physical bilateral contract data can be submitted in the DAM in a comparable manner as it is submitted in the RTM today.

### **PART 4 – PROPOSAL (BY SUBMITTER)**

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

It is proposed that a new Section 2 “Data Submission for the Day-Ahead Market” be included in the new Chapter 12 (Day-Ahead Market) with the subsections listed below. These sub-sections would be modeled after the existing market rule provisions regarding dispatch data submission for the real-time market (section 3 of Chapter 7) with some noted additional provisions. The additional provisions are to accommodate new dispatch data for the DAM that is not reflected in the real time market. It is proposed that the existing defined term dispatch data be amended to include data submissions for the DAM. It is also proposed that the information requirements for data submissions (comparable to those set out in Appendix 7) be included in Chapter 12 at a high level and would be specified in a Market Manual:

- New section 2.1 entitled ‘Applicability’ requiring market participants that intend one or more of their registered facilities to participate in the DAM or that intend to submit virtual offers and bids in the DAM to submit and/or provide revised DAM data to the IMO in accordance with the provisions of this section.
- New section 2.2 entitled ‘Data Submission Process’ setting out the means for market participant submission of DAM data and setting out the IMO’s obligations upon receipt: confirmation and rejection of non-compliant data.
- New section 2.3 entitled ‘DAM Data Submission’ specifying the timing of the submission of DAM

data, the timing and requirements for submitting revisions to DAM data, and the requirements for standing DAM data.

- New section 2.4 entitled ‘Form of DAM Data’ specifying the form of DAM data for all of the market participants and their associated facilities that are submitting dispatch data for the DAM. This section will also specify the price and quantity pairs required for offers and bids and will specify the form and content of multi-part bids and offers as well as multiple-block bids for price-sensitive loads and price responsive loads. Market participants submitting Hourly Committable Generation offers specified as HCG offers must submit values of less than one hour for their turnaround time, minimum run time and minimum down time and will receive special treatment in the DAM calculation engine. The form of DAM data for price-sensitive or price-responsive loads will be a bid to consume energy.
- New section 2.5 entitled ‘Energy Offers & Bids’ specifying the form of energy offers and bids for the DAM. This section will specify the form and content of price/quantity pairs, how the data is to be expressed (i.e. MWh/hour or whole MW), the form and content of energy ramp rates (including the MW quantity, ramp rate up and ramp rate down triplets), the maximum amount of the offer or bid as well as the form of offers and bids for boundary entities. This section will also specify the form and content for offers from market participants with Hourly Committable Generation. This section will also provide market participants with a list of all the information required for offers into the DAM for Dispatchable Generation (general and sub-classes, which include Quick Start Facilities, Hourly Committable Generation, AGC or Regulation generation and RMR generation), and Non-Dispatchable Generation. This section will also provide market participants with a list of information for bids into the DAM for loads including price sensitive loads (including hourly and multi-hour bids) and price-responsive loads (including dispatchable and non-dispatchable load bids) as well as multiple block price-sensitive and price-responsive load bids. The detailed specifics of the information to be provided will be set out in a Market Manual.
- New section 2.6 entitled ‘Operating Reserve Offers’ specifying the form of operating reserve offers for the DAM including the number of price-quantity pairs, ramp rates and the expression of the offer (whole MW or MWh/hour). This section will also list the information required to be included in the form for generation and loads within the IMO Control Area and boundary entities providing offers from outside the IMO Control Area.
- New section 2.7 requiring market participants with Self-Scheduling Generation Facilities to submit dispatch data to the DAM in a form and manner that will be set out in a Market Manual.
- New section 2.8 requiring market participants with a facility that is an Intermittent Generator to submit dispatch data in a form and manner that will be set out in a Market Manual.
- New section 2.9 requiring market participants with a facility that is a Transitional Scheduling Generator to submit dispatch data in a form and manner that will be set out in a Market Manual.

New section 2.10 requiring Transmitters to provide the IMO with transmission information in a form and manner to be set out in a Market Manual.

- New section 2.11 entitled ‘Virtual Offers and Bids’ specifying the form of virtual offers and bids in the DAM. This section will specify the form and content of price/quantity pairs, how the data is to be expressed (i.e. MWh/hour or whole MW) and the maximum amount of the offer or bid. This section will also specify the information required for day ahead virtual offers and bids. All market participants may make virtual offers and bids and the information required for validation will include the name of the market participant, the trading limit (elected by the market participant and authorized by the IMO upon posting of the necessary prudential support), the incremental energy

offer, and the location (initially only the Ontario Zone).

In addition to the new sections above it is proposed that the following market rules be amended to support the day ahead market as follows:

Chapter 8, section 2 (Physical Bilateral Contracts) be amended as follows:

- Amend to allow the submission of Physical Bilateral Contract data in the DAM, with specific timing and data requirements. The amendment will require market participants to specify whether the PBC data applies to the DAM or the RTM. The amendment will specify the timing for submission of DAM PBC data and all the provisions regarding the submission of PBC data in the RTM will apply to the submission of DAM PBC data including the ability of market participants to submit standing DAM PBC data. In addition the amendment will allow for the transfer of DAM uplift settlement amounts from the buying market participant to the selling market participant.

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In order to address the concerns of stakeholders regarding the complexity and extensive detail contained in the Market Rules it is proposed that the detailed specification of the form and manner of submission of dispatch data to the IMO for the DAM be included in Market Manuals rather than in the Market Rules themselves. For example, the following detailed specifications would be in the market manual:

- specification of the number of decimal points for prices and quantities in an offer or bid;
- listing of offer and bid information requirements, as is currently contained in Appendices 7.1 – 7.3 for the real-time market.

**PART 5 – FOR *IMO* USE ONLY**

<b><i>Technical Panel Decision on Rule Amendment Submission</i></b>	
<b>MR number: MR-00267</b>	
<b>Date submitted to <i>Technical Panel</i>: 30 Sep 04</b>	
<b>Accepted by <i>Technical Panel</i> as: __General__ Urgent __Minor</b> (please indicate with X) N/A	<b>Date: 5 Oct 04</b>
<b>Criteria for acceptance: N/A</b>	
<b>Priority: High</b>	
<b>Criteria for assigning priority: N/A</b>	
<b>Not accepted</b> (please indicate with X):	
<b>Clarification/interpretation required</b> (please indicate with X):	
<b><i>Technical Panel</i> minutes reference: IMOTP 151-1</b>	
<b><i>Technical Panel</i> Comments:</b>	