



Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00286-R00		
Subject:	Day-Ahead Market		
Title:	Definitions		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	11	Appendix:	
Sections:			
Sub-sections proposed for amending:			

PART 2 – PROPOSAL HISTORY

Version	Reason for Issuing	Version Date
1.0	Submitted for Technical Panel Review	18 Oct 04
2.0	Submitted for Technical Panel Review	2 Nov 04
3.0	Published for Stakeholder Review and Comment	5 Nov 04
Approved Amendment Publication Date:		
Approved Amendment Effective Date:		

PART 3 – EXPLANATION FOR PROPOSED AMENDMENT

Provide a brief description of the following:

- The reason for the proposed amendment and the impact on the *IMO-administered markets* if the amendment is not made
- Alternative solutions considered
- The proposed amendment, how the amendment addresses the above reason and impact of the proposed amendment on the *IMO-administered markets*.

Summary

Market rule amendments are proposed to define certain terms used within the day-ahead market (DAM)¹ rule amendments. Defining terms will add clarity and assist with the comprehension of the DAM market rules.

Background

In consultation with market participants and other stakeholders, the IMO has developed a high level design of a DAM. 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.

Discussion of Proposed Amendments

Part 4 of this amendment proposal sets out: (i) current definitions that require amendment because of the introduction of a DAM; (ii) definitions that have been used within the DAM market rule amendment proposals; and (iii) definitions that relate to energy forward market rules as this market will not be activated.

For ease of reference and because of the possibility of the addition of further definitions, the proposed definitions have not yet been formatted exactly in the manner in which they will appear in Chapter 11.

(i) current definitions that require amendment

Certain terms currently defined in the market rules refer only to real-time market activities. As these terms are to apply equally to the DAM in the corresponding market rule amendments, the definitions of these terms require amendment. These definitions include: bid, billing period, constrained IMO-controlled grid model, dispatch data, financial market participant, hourly uplift, market price, offer, physical market, TR zone and unconstrained IMO-controlled grid model.

(ii) Definitions used within DAM amendment proposals

The new definitions identified in this amendment are DAM terms that are listed in the Glossary (included in the DAM Detailed Design Overview), and used within the DAM market rule amendments.

¹ High Level design strawman can be found on IMO web-site at:
http://www.theimo.com/imoweb/pubs/consult/mep/DAM_WG_Strawman-4_0.pdf.

PART 3 – EXPLANATION FOR PROPOSED AMENDMENT

(iii) Energy forward market definitions

The definitions that relate to the energy forward market rules will be removed (along with the energy forward market rules themselves) because the energy forward market will not be activated.

PART 4 – PROPOSED AMENDMENT

Chapter 11

1. Definitions

bid	means a statement of the quantities of a commodity that a buyer will purchase at different <i>market price</i> levels for that commodity in the <i>real-time market</i> , <u>the <i>day-ahead market</i></u> or the <i>procurement market</i>
billing period	means, in respect of the purchase or sale of <i>TRs</i> in a round of a <i>TR auction</i> , a period of a <i>trading week</i> , and in respect of the <i>day-ahead energy forward market</i>, a period of a trading week and, in respect of the <i>real-time markets</i> , <u>the <i>day-ahead market</i></u> and the <i>settlement</i> of amounts owing to <i>TR holders</i> under section 4.4.1 of Chapter 8, a period of a calendar month
constrained IMO-controlled grid model	means the model <u>reflecting transmission constraints</u> capable of being used by the <i>dispatch algorithm</i> and described in section 4.5.1.2 of Chapter 7 <u>and the <i>DAM calculation engine</i> described in Appendix 12.1</u>
<u>constrained schedule</u>	<u>means a schedule generated in the <i>day ahead market</i> or the <i>real-time market</i> from a constrained dispatch using the <i>constrained IMO-controlled grid model</i></u>
<u>DAM calculation engine</u>	<u>means an algorithm that consists of a series of passes containing objective functions designed to produce <i>unit commitment</i>, <i>schedule quantities</i>, <i>prices</i> and <i>advisory information</i> to meet the needs of the <i>day-ahead market</i></u>
<u>day-ahead market or DAM</u>	<u>means a daily, <i>IMO-administered market</i> which clears <i>physical transactions</i> and <i>virtual transactions</i> the day prior to the <i>dispatch day</i></u>
dispatch data	means the <i>offers</i> , <i>bids</i> , <i>self-schedules</i> and/or estimates of <i>intermittent generation</i> required to be submitted to the <i>IMO</i> in accordance with Chapter 7 <u>or Chapter 12</u> and used by the <i>IMO</i> to determine <u><i>day-ahead market schedules</i></u> , <i>real-time market</i> physical operations and prices for <i>physical markets</i> and the

capacity reserve prices and capacity reserve quantities for the capacity reserve market if activated by the IMO Board pursuant to section 10 of Chapter 7

~~dispatchable generation~~ means a generation facility participating in the day-ahead market and/or the real-time market by means of offers which is capable of providing energy and operating reserve in response to IMO dispatch instructions on 5-minute dispatch intervals

~~energy forward market or EFM~~ means the financial, non-delivery market operated by the IMO pursuant to section 3 of Chapter 8

~~energy forward market bid or EFM bid~~ means a statement of prices and the associated quantities in respect of which a market participant would be willing to either pay a settlement amount, should the energy forward market price exceed the hourly Ontario energy price, or receive a settlement amount, should the energy forward market price be less than the hourly Ontario energy price, with such settlement amounts being determined in accordance with section 3.2.1 of Chapter 9

~~energy forward market offer or EFM offer~~ means a statement of prices and the associated quantities in respect of which a market participant would be willing to either pay a settlement amount, should the energy forward market price be less than the hourly Ontario energy price, or receive a settlement amount, should the energy forward market price exceed the hourly Ontario energy price, with such settlement amounts being determined in accordance with section 3.2.1 of Chapter 9

energy limited resource means a generation unit with a finite amount of energy to offer into the day-ahead market for any combination of the 24 hours in the subsequent dispatch day

financial market participant means a person that participates only in one or both of ~~the day-ahead energy forward market or the TR market~~ or the day-ahead market by means of virtual transactions

first settlement means the initial day-ahead market settlement activities described in Chapter 9, section 3.3A

forecast Ontario load means a forecast of hourly energy withdrawals from the IMO-controlled grid by load within Ontario for the next day

<u>hourly committable generation</u>	means <u>dispatchable generation that can be expected to start and synchronize within an hour of being requested/directed to do by the IMO, in any hour of the dispatch day</u>
hourly uplift	means the <u>a grouping of uplift payments</u> <u>settlement amounts</u> that are determined for each <u>settlement hour</u> based on <u>day-ahead market and real-time market</u> results in that <u>settlement hour</u>
<u>load component</u>	means part of a <u>load facility</u> for which a <u>bid or offer</u> has been submitted for the consumption of <u>energy</u> or the provision of <u>operating reserve</u> at a specific <u>delivery point</u> registered under the <u>market rules</u> and uniquely identified by a <u>load component ID</u>
<u>load component ID</u>	means the unique identifiers used for <u>day-ahead market load bidding of energy</u> and /or offering <u>operating reserve</u> and are each associated with one <u>delivery point</u>
<u>load reduction cost</u>	means the as bid initial costs of shutting down a portion of a <u>load facility</u> in a manner generally consistent with how this cost is incurred
market price	means the price of <u>energy</u> or <u>operating reserve</u> determined in the <u>real-time market</u> in accordance with the provisions of Chapter 7 <u>or determined in the day-ahead market in accordance with the provisions of Chapter 12</u>
<u>maximum daily energy limit</u>	means the as offered maximum amount of <u>energy</u> (and <u>operating reserves</u> in some circumstances) for which a generation resource can be scheduled during one <u>dispatch day</u>
<u>maximum facility demand</u>	means the registered maximum <u>demand</u> for the <u>load facility</u> as determined at the <u>delivery point</u>
<u>maximum generation capability</u>	means the registered physical maximum continuous generation rating in <u>MW</u>
<u>maximum level of load reduction</u>	means the as bid level of load reduction for a <u>price-responsive load</u> equal to or less than its registered <u>maximum load reduction</u>
<u>maximum load reduction</u>	means the registered maximum level of reduction the <u>price responsive load</u> component can provide

<u>maximum load reduction cycles per day</u>	<u>means the as bid maximum number of times during the day that a price responsive load resource can be scheduled to reduce consumption in an hour and then be scheduled to not reduce consumption in the next hour</u>
<u>maximum loading ramp rate</u>	<u>means the registered loading rate for a <i>generation unit</i> in MW/min</u>
<u>maximum stops per day</u>	<u>means the as offered maximum number of times a <i>generation unit</i> can be scheduled to generate in an hour and then scheduled to not be generating in the next hour</u>
<u>maximum unloading ramp rate</u>	<u>means the registered unloading ramp rate for a <i>generation unit</i> in MW/min</u>
<u>minimum down time</u>	<u>means the as offered number of consecutive hours that a <i>generation unit</i> must remain offline once the <i>generation unit</i> desynchronizes before another startup cycle can be initiated</u>
<u>minimum generation cost</u>	<u>means the as offered cost of operating at the as offered <i>minimum generation level</i></u>
<u>minimum generation level</u>	<u>means the as offered minimum output level equal to or greater than the registered minimum generation limit</u>
<u>minimum generation limit</u>	<u>means the registered physical minimum output a <i>generation unit</i> can be scheduled to while remaining on-line</u>
<u>minimum load reduction</u>	<u>means the as bid minimum level of load reduction equal to or less than the registered <i>maximum load reduction</i></u>
<u>minimum load reduction time</u>	<u>means the as bid minimum number of consecutive hours of load reduction equal to or greater than the <i>load facility's minimum load reduction</i> that a <i>price responsive load</i> must receive when it is given a day-ahead load reduction schedule</u>
<u>minimum run time</u>	<u>means the as offered minimum number of consecutive hours equal to or greater than the as offered <i>minimum generation level</i> that an offline <i>generation unit</i> must receive in its <i>day-ahead market</i> schedule</u>

<u>minimum time between load reductions</u>	<u>means the as bid minimum number of consecutive hours of zero MW load reduction schedules that must be given to a resource when its load reduction is scheduled in one hour and then not scheduled in the next hour before the load reduction can again be scheduled</u>
<u>multi-part bid</u>	<u>means a <i>bid</i> that provides additional pricing and cost information and operational parameters beyond those available in <i>single part bids</i></u>
<u>multi-part offer</u>	<u>means an <i>offer</i> that provides additional pricing and cost information and operational parameters beyond those available in <i>single part offers</i></u>
<u>non-dispatchable generation</u>	<u>means a <i>generation facility</i> participating in the <i>day-ahead market</i> and/or <i>real-time market</i> that does not provide <i>energy</i> and <i>operating reserve</i> in response to <i>IMO dispatch instructions</i> on <i>5-minute dispatch intervals</i></u>
<u>normal minimum down time</u>	<u>means the registered number of consecutive hours that a <i>generation unit</i> must remain off-line once the <i>generation unit</i> desynchronizes before another start-up cycle can be initiated</u>
<u>normal minimum run time</u>	<u>means the registered number of consecutive hours that a <i>generation unit</i> must be on-line at or above the <i>generation unit's minimum generation limit</i></u>
<u>normal turnaround time</u>	<u>means the registered elapsed time required from a request to start a <i>generation unit</i> to the time the unit can synchronize</u>
offer	means a statement of the quantities of a commodity that a seller will provide at different <i>market prices</i> for that commodity in the <i>real-time market</i> , <i>day-ahead market</i> or the <i>procurement market</i> or, in the case of an <i>offer</i> related to an <i>hour-ahead dispatchable load</i> , a statement of the <i>energy</i> withdrawals at the <i>facility</i> that the <i>market participant</i> will reduce at different prices in the applicable <i>pre-dispatch schedule</i>
<u>ongoing cost of minimum load reduction</u>	<u>means the as bid hourly cost associated with maintaining the offered load reduction at the <i>minimum load reduction level</i></u>
<u>pass 1</u>	<u>means the sub-process of the <i>DAM calculation engine</i> that commits the least cost resources to meet the requirements of <u>bid load</u></u>

<u>pass 2</u>	<u>means the sub-process of the <i>DAM calculation engine</i> that commits additional resources and schedules imports to meet the requirements of forecast load</u>
<u>pass 3</u>	<u>means the sub-process of the <i>DAM calculation engine</i> that defines financially binding, security constrained schedules needed to meet the requirements of bid load</u>
<u>pass 4</u>	<u>means the sub-process of the <i>DAM calculation engine</i> that defines physical energy and operating reserve advisory constrained schedules needed to meet the requirements of forecast load</u>
<u>pass 5</u>	<u>means the sub-process of the <i>DAM Calculation Engine</i> that defines unconstrained schedules needed to meet the requirements of bid load</u>
<u>physical market</u>	<u>means a <i>real-time market</i>, a <i>procurement market</i> administered by the <i>IMO</i> pursuant to as described in Chapter 7 and/or a <i>day-ahead market</i> administered by the <i>IMO</i> as described in Chapter 12</u>
<u>physical transaction</u>	<u>means a type of transaction in the <i>IMO-administered markets</i> which balances the <i>market participant's</i> day-ahead position in energy or operating reserve with the actual quantity of the same product that is bought or sold by the <i>market participant</i> in the <i>real-time market</i> at the same location</u>
<u>price responsive load</u>	<u>means a dispatchable or non-dispatchable load that is willing to limit its consumption to reduce the total costs of supplying the <i>day-ahead market</i></u>
<u>price responsive dispatchable load</u>	<u>means a <i>price responsive load</i> in the <i>day-ahead market</i> that is dispatchable in the <i>real-time market</i></u>
<u>price responsive multiple block load</u>	<u>means one or more registered <i>load components</i> representing discrete levels of load reduction for a single <i>load facility</i> associated with a single <i>delivery point</i></u>
<u>price responsive non-dispatchable load</u>	<u>means a <i>price responsive load</i> in the <i>day-ahead market</i> that is non-dispatchable in the <i>real-time market</i></u>

<u>price sensitive load</u>	<u>means a <i>load component</i> that seeks to cover its load position in the <i>day-ahead market</i> at or below a bid price and is not expected to reduce consumption whether or not the <i>bid</i> clears the <i>day-ahead market</i></u>
<u>price sensitive multiple block load</u>	<u>means one or more registered load components for a single <i>load facility</i> associated with a single <i>delivery point</i></u>
<u>ramp rate up</u>	<u>means the amount of time it takes a generation unit to reach a given output level</u> <u>means the as offered/as bid upward load following <i>ramp rate up</i> to the specified MW quantity</u>
<u>second settlement</u>	<u>means the <i>settlement</i> activities described in Chapter 9, section 3.4A</u>
<u>single part bid</u>	<u>means a <i>bid</i> to buy <i>energy</i> through a <i>physical transaction</i> or a <i>virtual transaction</i> represented by a series of <i>price-quantity pairs</i></u>
<u>single part offer</u>	<u>means an <i>offer</i> to sell <i>energy</i> through a <i>physical transaction</i> or a <i>virtual transaction</i> represented by a series of <i>price-quantity pairs</i></u>
<u>startup cost</u>	<u>means the as offered cost incurred to bring an off-line resource through all the unit specific startup procedures, including synchronisation and ramp up to <i>minimum generation level</i></u>
TR zone	means the <i>IMO control area</i> or an <i>inertie zone</i> in respect of which the <i>IMO</i> calculates prices for <i>energy</i> for <i>settlement</i> purposes in the real time markets;
<u>turnaround time</u>	<u>means the as offered elapsed time required from the announcement or posting of the <i>day-ahead market</i> schedule for the <i>generation unit</i> to be ready to generate an amount at least equal to its <i>minimum generation level</i></u>
<u>two-settlement system</u>	<u>means the <i>settlement</i> activities described in Chapter 9, section 3.2A</u>
unconstrained IMO-control grid model	means the model <u>that does not reflect transmission constraints</u> and is capable of being used by the <i>dispatch algorithm</i> and described in section 4.5.1.1 of Chapter 7 <u>and the DAM calculation engine described in Appendix 12.1</u>
<u>unconstrained schedule</u>	<u>means a schedule generated in the <i>day ahead market</i> or the <i>real-time market</i> from an unconstrained dispatch using the <i>unconstrained IMO-controlled grid model</i></u>

unit commitment means the process used to determine the commitment of offers and bid constructs in *pass 1* and *pass 2* of the *DAM calculation engine*

virtual transaction means a type of transaction in the *day-ahead market* that is not tied to physical performance in the *real-time market*

PART 5 – IMO BOARD COMMENTS

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