



Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00268-R00		
Subject:	Day-Ahead Market – Real-Time Market Integration		
Title:	Data Submission for the Real-Time Market		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	7	Appendix:	
Sections:	3		
Sub-sections proposed for amending:	Various		

PART 2 – PROPOSAL HISTORY

Version	Reason for Issuing	Version Date
1.0	Submit for Technical Panel Review	28 Oct 04
2.0	Publish 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 integrate the day-ahead market into the operation of the real-time market.

The following amendments are proposed so that the reliability-related objectives of the day-ahead market can be realized:

- Establishing IMO authority to translate to the real-time market, specific bids, offers, schedules and forecasts that were provided by market participants for the day-ahead market. The IMO would be required to translate specified day-ahead market information unchanged to the real-time market and to adjust other specified day-ahead market information to the real-time market.
- Imposing restrictions on market participant changes to bids and offers that were translated, and in some cases requiring IMO approval for changes that could impact reliable operation of the IMO-controlled grid. The IMO would be obligated to approve such changes unless there would be an adverse impact on the reliable operation of the IMO-controlled grid as a result of the change.
- Relieving market participants from their day-ahead market financially binding schedule which the market participant cannot meet in real-time for specified reasons beyond their control.

Other amendments adjusting the timing of the determination and publication of market reports and pre-dispatch schedules are also proposed. These amendments are required in order that the day-ahead and real-time market timings are complimentary.

Background

In consultation with market participants and other stakeholders, the IMO has developed a high level design of a day-ahead market (DAM)¹. 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 specify the integration of the day-ahead market with the existing real-time market. The following is a brief summary of the required integration. The Day-Ahead Market Real-Time Market Integration design document² provides further details.

The IMO expects that generation facilities and boundary entities (for imports) that receive a financially

¹ High Level Design Strawman can be found at:

http://www.theimo.com/imoweb/pubs/consult/mep/DAM_WG_Strawman-4_0.pdf

² Detailed design document for DAM RTM Integration can be found at:

http://www.theimo.com/imoweb/pubs/consult/mep/dam_wg_IMO_DES_0015_DAM_RTM_Integration_1.pdf

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binding schedule in the day-ahead market would meet that schedule in the dispatch day i.e. physically deliver the scheduled quantity. However, these facilities are not required under the market rules to meet that schedule in the dispatch day. Market participants can “buy-out” all or part of their financially binding day-ahead market schedule in the following ways:

- The market participant would be able to change, with some restrictions, the prices of their offer to achieve their desired real-time market dispatch. If the real-time injection of energy is less than their financially binding day-ahead market schedule, these participants would be effectively buying the replacement energy (i.e. the difference between their financially binding day-ahead market schedule and their real-time injection) from the real-time market. There would be restrictions to changes to offer prices associated with a minimum generation block for a generation facility.
- The market participant would be able, with IMO approval, to withdraw the offer or reduce the total offer quantity to a level below the financially binding day-ahead market schedule quantity and effectively buy the replacement energy from the real-time market. IMO approval would be granted unless the IMO determines that there would be an adverse impact on the reliable operation of the IMO-controlled grid as a result.

In the day-ahead market calculation engine passes, the IMO forecasts and assesses the reliability of dispatch day operation on the basis that those resources that received a financially binding day-ahead market schedule will be available and on-line as per that schedule. Pre-dispatch and real-time scheduling activities for the dispatch day should be conducted on the same basis. This will provide consistency among the day-ahead market, pre-dispatch and real-time schedules and reliability evaluations for the dispatch day. To achieve this consistency, it is proposed that the IMO “translate” day-ahead market dispatch data (offers, bids, forecasts, self-schedules) for specific resources to the pre-dispatch and real-time market processes. The IMO would translate some day-ahead market dispatch data, unchanged, to the real-time market and would adjust other day-ahead market dispatch data as it is moved to the real-time market. The manner in which the day-ahead market dispatch data are translated should be codified in the market rules to establish transparency and accountability in regards to the translation.

Additional restrictions are proposed on some of the changes that market participant can make to dispatch data after the data has been translated from the day-ahead market to the real-time market. These additional restrictions are required so that the IMO can assess the impact on reliability of such changes. The IMO would only disallow changes when the changes would have a negative impact on reliable operation. The additional restrictions and the IMO approval authorities also need to be codified in the market rules to establish transparency and accountability.

The IMO is obligated under NERC Policy 9 to share results of its security analysis for a dispatch day with other reliability coordinators by 16:00 EST of the pre-dispatch day. This requirement, along with the desire for the initial pre-dispatch schedule to reflect day-ahead market results, will affect the timing of the first publication of the pre-dispatch run and the timing of other IMO produced reports.

Proposed Amendments – R00

Section 3.1.1A (new)

This section proposes to authorize and obligate the IMO to translate day-ahead dispatch data (offers, bids, schedules and forecasts) to the real-time market under the conditions specified in this section 3. This explicit authority and obligation are proposed in order to provide transparency and certainty regarding the IMO transferal and translation of day-ahead market dispatch data to the real-time market.

PART 3 – EXPLANATION FOR PROPOSED AMENDMENTSection 3.1.2 (revised)

This section (which currently specifies that revisions to real-time market dispatch data that was submitted by a market participant need to meet the requirements of section 3) is amended to include revisions to dispatch data that has been translated.

Sections 3.3.1A – 3.3.1E (new)

These sections specify how the IMO will translate day-ahead market dispatch data for generation facilities, imports and exports that receive a day-ahead market constrained or unconstrained schedule.

1. For dispatchable generation facilities that receive a constrained or unconstrained schedule in the day-ahead market, the offer submitted for that facility in the day-ahead market will be translated and used as an initial set of dispatch data for the real-time market for that facility. The translation will result in the following:
 - Any minimum generation block specified by the market participant in its day-ahead market offer for the generation facility will be translated to a real-time market offer at a price of negative MMCP (i.e. the null price in the day-ahead market offer is “translated” to negative \$2000) so that the minimum generation block will be scheduled in the pre-dispatch and real-time sequences for the dispatch day. The remaining price-quantity pairs in the day-ahead market offer will be translated, unchanged, to real-time market dispatch data.
 - If the market participant did not specify a minimum generation block in its day-ahead market offer, all the price-quantity pairs in the day-ahead market offer will be translated, unchanged, to real-time market dispatch data.
 - Generation facility ramp rates, operating reserve offers and daily energy limits will be translated, unchanged, to real-time market dispatch data.
2. For non-dispatchable generation facilities (i.e. self-scheduling, transitional scheduling and intermittent generation facilities) only the self-schedule or forecast of energy production for the dispatch day submitted by the market participant for the day-ahead market is translated, unchanged, to the real-time market. Any day-ahead market offers for these facilities are not translated. The schedules and forecasts are translated as they are the best available indication of expected performance of these facilities on the dispatch day. The pre-dispatch and real-time sequences should be based on this “best” information.
3. For imports and exports that receive a constrained or unconstrained day-ahead market schedule, the day-ahead market dispatch data will be translated, unchanged, into real-time market dispatch data. The single p-q pair for a day-ahead multi-hour import or export is translated to the first price-quantity in the real-time market dispatch data.
4. Due to the number of the options available for load bidding in the day-ahead market, there is no translation of load facility dispatch data from the day-ahead market to the real-time market.

Any day-ahead market dispatch data for a facility translated to real-time market dispatch data will overwrite any existing real-time dispatch data for the facility (including standing real-time market dispatch data). This over-writing is necessary so that the first pre-dispatch schedule is developed on the basis of the day-ahead market results.

The IMO would be required to complete the translation of the day-ahead market dispatch data by 14:00

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EST of the pre-dispatch day. This timing is necessary so that market participants have the opportunity to revise the translated dispatch data before the close of the offer/bid window for the first pre-dispatch schedule (16:00 EST).

3.3.2 (revised)

This section (which currently specifies that the IMO use the initial real-time market dispatch data submitted by market participants in determining the first pre-dispatch schedule for the dispatch day) is proposed to be amended to include the use of the translated dispatch data. This amendment is required to provide clarity and transparency regarding the inputs for that first pre-dispatch schedule.

Section 3.3.3 (revised) and sections 3.3.3A -3.3.3B (new)

These amendments propose additional restrictions on changes that a market participant could make to real-time offers prior to the dispatch hour if the offer is for a dispatchable generation facility or an import and was originally translated by the IMO from day-ahead market dispatch data. Restrictions on changes that would remove the offer from the real-time market or reduce the total offer quantity are proposed because of the potential adverse impact such changes could have on the reliable operation of the IMO-controlled grid. Such changes could or would result in the facility or import not being available and on-line in real-time consistent with its day-ahead market schedule.

In addition to the existing restrictions on changes to real-time market dispatch data (sections 3.3.3 – 3.3.5) the following additional restrictions are proposed in section 3.3.3A for dispatchable generation facilities whose real-time market offer was originally translated from the day-ahead market:

- The participant may revise the total offer quantity to any amount greater than or equal to the day-ahead market scheduled quantity up to 2 hours ahead before the dispatch hour (section 3.3.3A.1);
- The participant may, with IMO approval, reduce the total offer quantity below the day-ahead market constrained schedule quantity up to 2 hours ahead before the intended synchronization time or dispatch hour (3.3.3A.2);
- The participant may, with IMO approval, withdraw the entire offer until 2 hours prior to the expected synchronization time or, if already synchronized, 2 hours prior to the intended withdrawal time (section 3.3.3A.3);
- The participant may not revise the price, quantity and ramp rate associated with the first two price-quantity pairs where these price-quantity pairs specify a minimum generation level but may revise the price associated with all other price-quantity pairs for any dispatch hour without restriction until 2 hours prior to the beginning of that dispatch hour (section 3.3.3A.4).

In addition to the existing restrictions on changes to real-time market dispatch data (sections 3.3.3 – 3.3.5) the following additional restrictions are proposed in section 3.3.3B for an import whose real-time market dispatch data was originally transferred from the day-ahead market:

- The participant may revise any price in the offer for any dispatch hour until 2 hours before the dispatch hour (section 3.3.3B.1);
- The participant may revise the total offer quantity to any amount greater than or equal to the day-ahead market scheduled quantity up to 2 hours ahead before the dispatch hour (section 3.3.3B.2);
- The participant may, with IMO approval, reduce the total offer quantity below the day-ahead market constrained schedule quantity up to 2 hours ahead before the intended synchronization

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time or dispatch hour (3.3.3B.3);

- The participant may, with IMO approval, withdraw the entire offer until 2 hours prior to the dispatch hour (section 3.3.3B.4);

No other changes to the restrictions on revisions to real-time market dispatch data are proposed with respect to load facilities, non-dispatchable generation facilities, or export transactions.

Section 3.3.5A (new)

This section proposes that the IMO would approve any revision to dispatch data specified in the new sections 3.3.3A and 3.3.3B, for which IMO authorization is required, unless the revision would pose a risk to the reliability of the electricity system. This criteria is the same as the existing criteria for IMO authorization of revisions to dispatch data within the 2-hour offer/bid window (existing section 3.3.6). The IMO would not be permitted to withhold authorization of revisions on the basis of impact on market prices.

Sections 3.3.6 and 3.3.8.1 (revised)

It is proposed to amend these sections as follows:

- By definition, “reliability” includes “security” and so the expression “reliability or security” is redundant.
- The words “in relation to” are deleted as they are not necessary to convey the intended meaning.

Section 3.4.2 (revised)

It is proposed to delete this section as the required transmitter information is not “dispatch data” and therefore the obligation is misplaced in this section 3.4 which describes the form of dispatch data. The transmitter obligation is also specified in section 3.9.

Sections 3.7, 3.8 and 3.8A (revised)

These amended sections propose that registered market participants for self-scheduling, intermittent and transitional scheduling generation facilities would be required to submit forecasts or self-schedules for the day-ahead market and that those forecasts or self-schedules are translated by the IMO to the real-time market. These amendments, although re-iterating what is already specified in other proposed market rules, are proposed to be included here as these sections are the ones which these market participants currently refer to when determining their market rule obligations regarding submission of dispatch data.

These sections are also proposed to be amended to permit a registered market participant to submit dispatch data in the real-time market if it did not submit dispatch data for the day-ahead market because the participant did not expect the facility to be operating on the dispatch day and that expectation changed after the close of the day-ahead market offer/bid window. This change is necessary to allow the market participant to participate in the real-time market under these circumstances and also to ensure that the IMO is aware of the expected operation of these facilities.

Section 3.9 (revised)

This section, which specifies the transmission system information updates required for the real-time market, is proposed to be changed. The information updates are required in order for the IMO to

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prepare IMO-controlled grid System Status Reports under section 12.1 of Chapter 7. With the introduction of the day-ahead market, changes to the timing of the production of System Status Reports are necessary to align the release of these reports with the day-ahead and real-time market offer/bid windows. Since the information updates are required for the production of System Status Reports, it is proposed that all the information timing requirements should be specified in the existing section 12.1 which contains the System Status Report provisions, rather than specifying the timing of information updates related to the real-time market in this section 3.9 and specifying the timing of information updates related to the day-ahead market in the new Chapter 12. (Refer to MR-00268-R03)

Section 3.10 (new)

This section proposes to permit the IMO to direct a market participant to remove its dispatch data if the IMO determines that the removal is necessary to maintain reliable operation of the IMO-controlled grid e.g. situations of over-generation. Such a request is referred to as a de-commitment. Market participants would be required to remove the dispatch data as soon as practicable. The IMO would be obligated to make adjustments to the financially binding day-ahead market constrained schedules for the generation facility in order to relieve the market participant from that financially binding schedule for the period of the de-commitment. The IMO would also be obligated to make adjustment to settlement inputs so that the market participant is not subject to the production cost guarantee commitment adjustment. These amendments are necessary to allow the IMO to take action to maintain reliability in situations such as over-generation, and to protect affected market participants from the financial consequences of those actions.

This section also proposes that the market participant be relieved of the financially binding day-ahead market constrained schedule for a non-quick start generation facility in the circumstances where the participant cannot connect their facility to the IMO-controlled grid as a result of events on the IMO-controlled grid beyond the control of the participant. An example of such an event would be a transmission line trip that results in the generation facility not being able to connect to the grid. Such relief is necessary for a non-quick start generation facility as they would not be eligible for CMSC payments in the real-time market as a result of the event that opens their connection breaker. The IMO would be obligated to make the same adjustments to the financially binding day-ahead market constrained schedules and settlement inputs as noted above for a de-commitment.

General

Sub-titles have been added to identify subject matter and improve readability.

PART 4 – PROPOSED AMENDMENT

3. Data Submissions for the Real-Time Markets

3.1 Applicability of this Section

3.1.1 A *registered market participant* that intends one or more of its *registered facilities* to be eligible for *dispatch* by the *IMO* for a given *dispatch hour* of a *dispatch day* shall submit to the *IMO dispatch data* for each such *registered facility* for such *dispatch hour* in accordance with this section 3.

3.1.1A The *IMO* shall translate *day-ahead market dispatch data* to the *real-time market* under the conditions specified in this section 3.

3.1.2 *Dispatch data* that are revised after initial submission or *IMO translation* as allowed under the provisions of this section 3 must satisfy all of the requirements that apply to initial *dispatch data* and shall be *dispatch data*.

3.1.3 The *IMO* may restrict the operation of the *market rules* applicable to *hour-ahead dispatchable loads*. The *IMO* shall promptly notify *market participants* of such restrictions, and the reasons for the restrictions. The *IMO* shall document any such restrictions in the applicable *market manual*.

3.2 The Data Submission Process

3.2.1 Each *registered market participant* shall submit its *dispatch data* to the *IMO* through the *electronic information system* or, when not available, by such alternative means and/or in such alternative simplified form as may be specified by the *IMO* pursuant to section 3.2.2.3.

3.2.2 The *IMO* shall:

3.2.2.1 stamp all *dispatch data* with the time that it was received by the *IMO*;

3.2.2.2 within five minutes, confirm receipt of all such *dispatch data* through the *electronic information system*; and

3.2.2.3 specify alternative means and/or an alternative simplified form of submitting and confirming *dispatch data* when the *electronic information system* is unavailable.

- 3.2.3 The *IMO* shall reject any *dispatch data* that does not comply with the rules set forth in this section 3 and shall provide to the *registered market participant* submitting such rejected *dispatch data* the reasons for such rejection.
- 3.2.4 A *registered market participant* that does not receive from the *IMO* confirmation of receipt of *dispatch data* in accordance with section 3.2.2.2 shall immediately contact the *IMO* by telephone or facsimile seeking confirmation of receipt.
- 3.2.5 A *registered market participant* shall, if requested by the *IMO*, resubmit *dispatch data* by such means as may be specified by the *IMO* in the request.

3.3 Dispatch Data Submissions and Translations

- 3.3.1 Subject to section 3.3.9, a *registered market participant* that submits or is required to submit *dispatch data* for the initial *pre-dispatch schedule*, shall submit initial *dispatch data* for each *dispatch hour* of the *dispatch day* after 06:00 EST but before ~~11~~16:00 EST of each *pre-dispatch day*. Such initial *dispatch data* may thereafter be revised as permitted by this section 3.3.

IMO Translation of Day-Ahead Market Dispatch Data to the Real-Time Market

- 3.3.1A The *IMO* shall translate the *day-ahead market energy and operating reserve offers to real-time market energy and operating reserve offers* for each *dispatchable generation facility* that received one or more of the following for the *dispatch day*:

- a *day-ahead market constrained schedule for energy*;
- a *day-ahead market constrained schedule for operating reserve*;
- a *day-ahead market unconstrained schedule for energy*;
- a *day-ahead market unconstrained schedule for operating reserve*.

The *IMO* shall translate the *day-ahead market energy and operating reserve offers* as follows:

- 3.3.1A.1 If the *day-ahead market energy offer* specifies a *minimum generation level*, the *IMO* shall translate that *minimum generation level* to the first two *price-quantity pairs* of the *real-time market energy offer*. The first *price-quantity pair* shall have a negative *MMCP* price and zero quantity, and the second *price-quantity pair* shall have a negative *MMCP* price and quantity equal to that *minimum generation level*. The *IMO* shall translate, unchanged, the remaining *price-quantity pairs* of the *day-ahead market energy offer* to *price-quantity pairs* in the *real-time market energy offer*.

- 3.3.1A.2 If the *day-ahead market energy offer* does not specify a *minimum generation level*, the *IMO* shall translate, unchanged, all the *price-*

quantity pairs of the day-ahead market energy offer to price-quantity pairs in the real-time market energy offer.

3.3.1A.3 The IMO shall translate, unchanged, all other day-ahead market energy and operating reserve offer information, such as ramp rates, daily energy limits and operating reserve offer price-quantity pairs to real-time market energy and operating reserve offers.

3.3.1B The IMO shall translate, unchanged, the forecasts and self-schedules for each self-scheduling generation facility, intermittent generator and transitional scheduling generator that were submitted for the day-ahead market for the dispatch day under section 2.3 of Chapter 12.

3.3.1C The IMO shall translate day-ahead market energy offers and bids and operating reserve offers to real-time market energy offers and bids and operating reserve offers for each import and export that received one or more of the following for the dispatch day:

- a day-ahead market constrained schedule for energy;
- a day-ahead market constrained schedule for operating reserve;
- a day-ahead market unconstrained schedule for energy;
- a day-ahead market unconstrained schedule for operating reserve.

The IMO shall translate the day-ahead market energy offers and bids and operating reserve offers as follows:

3.3.1C.1 The IMO shall translate, unchanged, hourly day-ahead market offers and bids to real-time market offers and bids;

3.3.1C.2 If the day-ahead market offer or bid is a multi-hour offer or bid, the IMO shall translate, unchanged, the single price-quantity pair of the multi-hour offer or bid to the first price-quantity pair of the corresponding real-time market offer or bid.

3.3.1D The IMO shall complete the translations specified in sections 3.3.1A, 3.3.1B and 3.3.1C by 14:00 EST of each pre-dispatch day.

3.3.1E Day-ahead market dispatch data that is translated by the IMO under sections 3.3.1A, 3.3.1B and 3.3.1C shall over-write any existing real-time market dispatch data for the applicable generation facility and boundary entity.

3.3.2 The IMO shall use the initial dispatch data submitted by registered market participants under section 3.3.1 and the translated dispatch data specified in sections 3.3.1A, 3.3.1B and 3.3.1C to determine and publish the initial pre-dispatch schedule in accordance with section 5.

Market Participant Revisions to Dispatch Data

- 3.3.3 ~~Subject to section 3.3.4A, A~~a registered market participant may submit revised dispatch data with respect to any dispatch hour without restriction until 2 hours prior to the beginning of that dispatch hour unless those circumstances described in sections 3.3.3A, 3.3.3B and 3.3.4A apply.
- 3.3.3A When dispatch data for a dispatchable generation facility has been translated by the IMO under section 3.3.1A, the registered market participant:
- 3.3.3A.1 may revise the total offer quantity for any dispatch hour to any amount greater than or equal to the day-ahead market constrained schedule quantity until 2 hours prior to the beginning of that dispatch hour;
- 3.3.3A.2 may, with IMO authorization, reduce the total offer quantity below the day-ahead market constrained schedule quantity for any dispatch hour until 2 hours prior to the intended synchronization time or the beginning of that dispatch hour; whichever is earlier;
- 3.3.3A.3 may, with IMO authorization, withdraw the entire offer until 2 hours prior to the intended synchronization time or, if already synchronized, 2 hours prior to the intended withdrawal time; and
- 3.3.3A.4 may not revise the price, quantity and ramp rate associated with the first two price-quantity pairs where those price quantity pairs specify a minimum generation level as offered in the day-ahead market but, may revise the price associated with all other price-quantity pairs for any dispatch hour until 2 hours prior to that dispatch hour.
- 3.3.3B When dispatch data for an import has been translated by the IMO under section 3.3.1C, the registered market participant:
- 3.3.3B.1 may revise the price associated with any price-quantity pair with respect to any dispatch hour until 2 hours prior to the beginning of that dispatch hour;
- 3.3.3B.2 may revise the total offer quantity for any dispatch hour to any amount greater than or equal to the day-ahead market constrained schedule quantity until 2 hours prior to the beginning of that dispatch hour and
- 3.3.3B.3 may, with IMO authorization, reduce the total offer quantity below the day-ahead market constrained schedule quantity for that import for any dispatch hour until 2 hours prior to the beginning of that dispatch hour; and
- 3.3.3B.4 may, with IMO authorization, withdraw the entire offer for any dispatch hour until 2 hours prior to the beginning of that dispatch hour.

- 3.3.4 [Intentionally left blank]
- 3.3.4A A *registered market participant* may submit revised *dispatch data* for an *hour-ahead dispatchable load* with respect to any *dispatch hour*, without restriction, until 3 hours prior to that *dispatch hour*.
- 3.3.5 Except as permitted by sections 3.3.8, 3.3.9.2 and 3.3.11, no *registered market participant* may, without the approval of the *IMO*, submit revised *dispatch data* with respect to any *dispatch hour* within 2 hours of that *dispatch hour* or, in the case of an *hour-ahead dispatchable load*, within 3 hours of that *dispatch hour*.

IMO Approval of Revisions to Dispatch Data

3.3.5A When the authorization of the *IMO* is required for the revision of *dispatch data* under sections 3.3.3A or 3.3.3B, the *IMO* shall authorize the revision unless the revision poses risks to the *reliability of the electricity system*.

3.3.6 Where pursuant to section 3.3.5, the authorization of the *IMO* is required for the submission of revised *dispatch data*, the *IMO* shall, unless the change in quantity poses risks ~~in relation~~ to the *reliability* ~~or security~~ of the *electricity system*, authorize the submission of revised *dispatch data* where:

- 3.3.6.1 [Intentionally left blank]
- 3.3.6.2 the revision relates solely to the quantity element of the *dispatch data*; and
- 3.3.6.3 the *registered market participant* indicates, at the time of the submission of the revised *dispatch data*, that the revision is required in order to reflect a proposed change in the operational status of the *registered facility* designed solely to prevent the *registered facility* from operating in a manner that would violate any *applicable law*, endanger the safety of any person or damage property or the environment.

3.3.7 *Dispatch data* submitted during the *dispatch day* to which it applies need refer only to the remaining *dispatch hours* of that *dispatch day*.

3.3.8 Notwithstanding any other provision of this section 3.3, a *registered market participant* shall as soon as practical submit to the *IMO* revised *dispatch data* for any *registered facility* in respect of which it is the *registered market participant* if, for any *dispatch hour* in the current *pre-dispatch schedule*, the quantity of any *physical service* scheduled for that *registered facility* differs from the quantity the *registered market participant* reasonably expects to be delivered or withdrawn by more than the greater of (i) 2 percent (ii) such absolute amount as may be determined by the *IMO* based on considerations of *reliability* and *facility* specific characteristics, (iii) in the case of a *cogeneration facility* that is either a

dispatchable or *self-scheduling generation facility*, such amount based on the impact that the production of the other forms of useful energy within the *facility* has on *energy* production based on the information outlined in section 2.2.6.10, and the *IMO*, and (iv) in the case of an *enhanced combined cycle facility* that is either a *dispatchable* or *self-scheduling generation facility*, such amount based on the impact that the recovery of waste heat from an industrial process/processes within the *facility* has on *energy* production based on the information outlined in section 2.2.6.10, and the *IMO*:

- 3.3.8.1 shall, unless the change in quantity poses risks ~~in relation~~ to the *reliability* ~~or security~~ of the *electricity system*, include such change as an input in respect of any subsequent *market schedules* determined following receipt of the change; and
- 3.3.8.2 may refer such changes or revision of *dispatch data* to the *market surveillance panel*.

Standing Dispatch Data

3.3.9 If the *dispatch data* for a *registered facility* for a given *trading day* of a *trading week* will not change from *trading week* to *trading week*, the *registered market participant* for that *registered facility* may, as and for its *dispatch data* described in section 3.3.1, submit standing *dispatch data* for that *registered facility*. Such standing *dispatch data* shall:

- 3.3.9.1 define the *dispatch data* for each *dispatch hour* of each *dispatch day*;
- 3.3.9.1A in respect of each *dispatch day* for which it is in effect, be deemed for the purposes of this section 3.3 to be initial *dispatch data* at 06:00 EST on the *pre-dispatch day*; and
- 3.3.9.2 remain in effect until the expiration date specified in the standing *dispatch data* unless earlier withdrawn or earlier revised by the *registered market participant*:
 - a. as standing *dispatch data* prior to 06:00 EST on the *pre-dispatch day*; or
 - b. in accordance with sections 3.3.3 to 3.3.8.

IMO Directions for Market Participants to Submit Dispatch Data

3.3.10 Notwithstanding sections 3.3.3, 3.3.4, 3.3.5 and 3.3.8, where the *IMO* determines, on the basis of the initial *pre-dispatch schedule* or any subsequent *pre-dispatch schedule* determined in accordance with section 5, that a revision to *dispatch data* will not allow it to maintain the *reliability* of the *IMO-controlled grid*, the *IMO* may, subject to sections 3.3.15 and 3.3.16:

- 3.3.10.1 refuse to accept a revision to the quantity element of *dispatch data* submitted by a *registered market participant*; or
- 3.3.10.2 direct a *registered market participant* to submit or to resubmit a revision to the quantity element of its *dispatch data*, or both. The *IMO* shall notify the *registered market participant* of a refusal referred to in section 3.3.10.1 and shall include in any direction issued pursuant to section 3.3.10.2 a description of the revised *dispatch data* to be submitted or resubmitted by the *registered market participant*.
- 3.3.10A A *registered market participant* in respect of a *transitional scheduling generator* may treat a direction referred to in section 3.3.10.2 that means an increase in the quantity element of its *dispatch data* as a request and shall confirm with the *IMO* its intention to comply or not comply with the request issued. If the *registered market participant* indicates its intentions are not to comply with the direction, the *registered market participant* shall provide the reasons for non-compliance to the *IMO*.
- 3.3.11 A *registered market participant* to which a direction has been issued pursuant to section 3.3.10.2 shall submit revised *dispatch data* to the *IMO* in accordance with the terms of the direction within 2 hours of the time of receipt of the direction.
- 3.3.12 If the *IMO* determines, on the basis of the initial *pre-dispatch schedule* or any subsequent *pre-dispatch schedule* determined in accordance with section 5, that it requires the supply of *energy, ancillary services*, other than *contracted ancillary services*, or both from additional *registered facilities* in order to maintain the *reliability* of the *IMO-controlled grid*, the *IMO* shall determine if there are additional *registered facilities* that have not submitted *dispatch data* and that can, to the *IMO's* knowledge, be made available within the time required in order to help maintain the *reliability* of the *IMO-controlled grid*.
- 3.3.13 Subject to sections 3.3.14 to 3.3.16, the *IMO* may direct the *registered market participant* for an additional *registered facility* identified pursuant to section 3.3.12 to submit *dispatch data*, and shall include in such direction a description of the *dispatch data* to be submitted by the *registered market participant*.
- 3.3.14 A *registered market participant* to which a direction is issued pursuant to section 3.3.13 shall submit *dispatch data* to the *IMO* in accordance with the terms of the direction within 2 hours of the time of receipt of the direction.
- 3.3.15 The *IMO* shall not issue a direction pursuant to section 3.3.10 or 3.3.13 for the purposes of addressing a lack of overall *adequacy* of the *IMO-controlled grid*.
- 3.3.16 Where a *registered facility* to which a direction issued pursuant to section 3.3.10.2 or 3.3.13 relates has a *reliability must-run contract* with the *IMO*, any such direction shall, subject to the time period for the submission of *dispatch data* referred to in sections 3.3.11 and 3.3.14, be consistent with the terms of such *reliability must-run contract*.

- 3.3.17 Nothing in sections 3.3.10 to 3.3.16 shall preclude the application of the provisions of sections 7.3.2.3 or of Appendix 7.6 in respect of *dispatch data* that is revised or submitted in accordance with sections 3.3.10 to 3.3.16.
- 3.3.18 A *registered market participant* may, for any one or more of its *registered facilities* that is a *dispatchable load*, identify all or a portion of the consumption at such *registered facilities* as *non-dispatchable load* by submitting *dispatch data* in accordance with the applicable *market manual*.

3.4 The Form of Dispatch Data

- 3.4.1 *Dispatch data* shall relate to a specified *dispatch hour* of the *dispatch day* and to a specified *registered facility*, shall comply with the applicable provisions of this section and sections 3.5 to 3.9 and shall take one of the following forms:
- 3.4.1.1 for a *dispatchable generation facility*, an *offer* to provide a *physical service* to the appropriate *real-time market*. *Offers* accepted result in sales in the *real-time market* only to the extent that, for the *registered market participant* submitting such *offers*, the total value of the *physical services* provided to the *real-time markets* is greater than the total value of the *physical bilateral contract quantities* notified to the *IMO* in respect of that *registered market participant* pursuant to Chapter 8;
- 3.4.1.2 for a *dispatchable load facility*, a *bid* to take *energy* from the *energy market*. *Bids* accepted result in purchases in the *real-time market* only to the extent that, for the *registered market participant* submitting such *bids*, the total value of the *physical services* taken from the *real-time markets* is greater than the total value of *physical bilateral contract quantities* notified to the *IMO* in respect of that *registered market participant* pursuant to Chapter 8;
- 3.4.1.2A for an *hour-ahead dispatchable load*, an *offer* to reduce its *energy* withdrawals from the *energy market*. *Offers* accepted result in reductions in purchases in the *energy market* only to the extent that, for the *registered market participant* submitting such *offers*, the total value of the remaining *energy* taken from the *energy market* is greater than the total value of *physical bilateral contract quantities* notified to the *IMO* in respect of that *registered market participant* pursuant to Chapter 8;
- 3.4.1.3 for a *self-scheduling generation facility*, a *self-schedule* for the provision of *energy* to the *energy market*. *Energy* actually provided by a *self-scheduling generation facility* results in sales in the *real-time market* only to the extent that, for the *registered market participant* designated for that *self-scheduling generation facility*, the total value of *energy* provided to the *real-time market* is greater than the total

value of *physical bilateral contract* quantities notified to the *IMO* in respect of that *registered market participant* pursuant to Chapter 8;

- 3.4.1.4 for an *intermittent generator*, a forecast of *energy* expected to be provided to the *energy market*. *Energy* actually provided by an *intermittent generator* results in sales in the *real-time market* only to the extent that, for the *registered market participant* designated for such *intermittent generator*, the total value of *energy* provided to the *real-time market* is greater than the total value of *physical bilateral contract quantities* notified to the *IMO* by that *registered market participant* pursuant to Chapter 8;
- 3.4.1.4A for a *transitional scheduling generator*, a forecast schedule for the provision of *energy to the energy market*; and
- 3.4.1.5 if the *capacity reserve market* has been activated pursuant to section 10.1.3, for all *registered facilities* providing *capacity reserve*, an *offer to provide capacity reserve*.

3.4.2 ~~[Intentionally left blank – section deleted] Each transmitter shall submit to the IMO information on the status of its transmission system as described in section 3.9.~~

3.4.3 Each *offer* or *bid* for any *physical service* shall contain prices, each with an associated quantity. A price and the associated quantity in an *offer* or *bid* is a *price-quantity pair* and shall comply with sections 3.5 and 3.6 and the following:

- 3.4.3.1 subject to section 3.4.3.1A, the quantity in any *price-quantity pair*, other than in the first *price-quantity pair*, shall be a cumulative quantity representing the maximum quantity the *registered market participant* is offering to sell or bidding to buy, respectively, at the associated price in the *price-quantity pair*;
- 3.4.3.1A for an *offer* for an *hour-ahead dispatchable load*, the quantity in any *price-quantity pair*, other than in the first *price-quantity pair*, shall be a cumulative quantity representing the maximum quantity by which the *registered market participant* is offering to reduce its *energy* withdrawals at the associated price in the *price-quantity pair*;
- 3.4.3.2 in any *offer*, the price in each *price-quantity pair* must not decrease as the associated quantity increases; and
- 3.4.3.3 in any *bid*, the price in each *price-quantity pair* must not increase as the associated quantity increases.

3.4.4 The *market price of energy*, in \$/MWh, at and below which the *IMO* may instruct a *generation facility* to reduce its *energy* output to zero shall be:

- 3.4.4.1 [Intentionally left blank]
- 3.4.4.2 in the case of a *generation facility* other than a *self-scheduling generation facility* or an *intermittent generator*, the lowest price in any *price-quantity pair* submitted with respect to such facility.

Such price may be zero or negative but may not be less than negative *MMCP*.

- 3.4.4A Every submission of *dispatch data* with respect to a *self-scheduling generation facility* or an *intermittent generator* shall specify a price, in \$/MWh, at and below which the applicable *registered market participant* reasonably expects to reduce the *energy output* of such *self-scheduling generation facility* or *intermittent generator* to zero. Such price may be zero or negative but may not be less than negative *MMCP*.
- 3.4.5 Every submission of *dispatch data* with respect to a *dispatchable load facility* or an *hour-ahead dispatchable load* shall specify a *market price of energy*, in \$/MWh, at and above which the *IMO* may instruct the *facility* to reduce its *energy withdrawals* either to zero, in the case of a *dispatchable load facility*, or by the total *offered quantity*, in the case of an *hour-ahead dispatchable load*. Such price shall not be greater than *MMCP*.

3.5 Energy Offers and Energy Bids

- 3.5.1 A *registered market participant* may submit no more than one *energy offer* or one *energy bid* with respect to a given *registered facility* for any *dispatch hour*.
- 3.5.2 All *energy offers* and *energy bids* shall be submitted using such forms as may be specified by the *IMO*, which forms shall require, at a minimum, provision of all of the information specified in Appendices 7.1 and 7.2, respectively, except where the *IMO* specifies an alternative means and/or an alternative simplified form pursuant to section 3.2.2.3.
- 3.5.3 Each *energy offer* or *energy bid* must contain at least 2 and, except for an *energy offer* for an *hour-ahead dispatchable load*, may contain up to 20 *price-quantity pairs* for each *dispatch hour*. Each *energy offer* for an *hour-ahead dispatchable load* may contain up to 4 *price-quantity pairs* for each *dispatch hour*. The price in each such *price-quantity pair* shall be not more than the *Maximum Market Clearing Price* or *MMCP* and not less than the negative *Maximum Market Clearing Price* or negative *MMCP* and shall be expressed in dollars and whole cents per MWh. The quantity in each such *price-quantity pair* shall:
- 3.5.3.1 in the case of a *registered facility* other than a *boundary entity* or an *hour-ahead dispatchable load*, be expressed in MW (or MWh/hour) to one decimal place and shall not be less than 0.0 MW (or 0.0 MWh/hour); or

- 3.5.3.2 in the case of a *registered facility* that is a *boundary entity* or an *hour-ahead dispatchable load*, be expressed in whole MW (or MWh/hour) and shall not be less than 0 MW (or 0 MWh/hour).

The quantity in the first *price-quantity pair* shall be 0.0 MW (or 0.0 MWh/hour) or 0 MW (or 0 MWh/hour) as applicable. The price in the second *price-quantity pair* shall be the same as the price in the first *price-quantity pair*.

- 3.5.4 Prices in *energy offers* and *energy bids* may be negative and such negative price shall imply:
- 3.5.4.1 when in an *energy offer*, that the *registered market participant* is willing to pay up to that price for each MWh of *energy* it injects rather than reduce its output; and
- 3.5.4.2 when in an *energy bid*, that the *registered market participant* is willing to take or dispose of excess *energy*, but only if paid at least that price for each excess MWh taken or disposed of.
- 3.5.5 Each *energy offer* or *energy bid* shall contain up to 5 sets of ramp quantity and ramp up/ramp down values for each *dispatch hour*. The ramp quantity in each such set shall be the maximum MW quantity at which the corresponding ramp rate values apply, shall be expressed in MW to one decimal place and shall be greater than 0.0 MW. The ramp up and ramp down values in each such set shall be expressed in MW/minute to one decimal place and shall be greater than 0.0 MW/min. The laminations corresponding to such sets may be different from those of the *price-quantity pairs* contained in each *energy bid* or *energy offer*.
- 3.5.6 The largest quantity in any *energy offer* or *energy bid* for any *dispatch hour* must be at least 1.0 MWh but shall not exceed the lesser of:
- 3.5.6.1 the maximum output of *energy* in an hour indicated in the registration information for the relevant *registered facility*;
- 3.5.6.2 the maximum quantity of *energy* that can be supplied (for an *energy offer*) or taken (for an *energy bid*) in that *dispatch hour* by the *registered facility*, as estimated by the *registered market participant* for that *registered facility*; or
- 3.5.6.3 the maximum allowed injection (for an *energy offer*) or withdrawal (for an *energy bid*) in that *dispatch hour* through the relevant *connection point*, as limited by the lesser of (i) the capacity of any radial line connecting the *registered facility* to the *connection point*; (ii) the maximum injection or withdrawal as specified in the *connection agreement* applicable to the *registered facility*; or (iii) the maximum injection or withdrawal otherwise permitted by the relevant *transmitter*.

- 3.5.7 A *registered market participant offering energy* from a specified *registered facility* may submit *dispatch data* specifying a maximum amount of *energy* that can be scheduled by the *IMO* for that *registered facility* over a *dispatch day*. Such a limit shall be used only in the *pre-dispatch schedule* described in section 5, and only for the purpose of providing information that the *registered market participant* may use as a basis to revise its *energy offers* in subsequent submissions.
- 3.5.8 All wheeling through transactions shall consist of:
- 3.5.8.1 an individual *energy offer* from a *boundary entity* injecting *energy* into the *IMO-controlled grid* and an *energy bid* from a *boundary entity* withdrawing *energy* from the *IMO-controlled grid*; or
- 3.5.8.2 an individual *energy offer* from a *boundary entity* injecting *energy* into the *IMO-controlled grid* and an *energy bid* from a *boundary entity* withdrawing *energy* from the *IMO-controlled grid*, and an identification of the desire for these to be linked, in accordance with the applicable *market manual*. The *IMO* shall assess so identified *offers* separately from their associated *bids*. The *IMO* shall schedule and *dispatch* the linked *offers* and *bids* such that both are equal to the lower of the *offer* or *bid* that would otherwise be scheduled and *dispatched*.
- 3.5.9 An *energy bid* submitted by a *registered market participant* for a *boundary entity* in respect of the withdrawal from the *IMO-controlled grid* of *energy* destined for an *intertie zone* in the United States of America shall constitute a declaration by a *registered market participant* for the *boundary entity* of an intention to export *energy* in the circumstances described in paragraphs 1(b) to 1(d) of Part V of Schedule VI of the *Excise Tax Act* (Canada).

3.6 Operating Reserve Offers

- 3.6.1 A *registered market participant* may not submit, for any *registered facility*, more than one *offer* to provide each class of operating reserve in any *dispatch hour*.
- 3.6.2 Each *offer* to provide *operating reserve* must contain at least 2 and may contain up to 5 *price-quantity pairs* for each class of *operating reserve* for each *dispatch hour*. The price in each such *price-quantity pair* shall be not more than the *Maximum Operating Reserve Price* or *MORP* and not less than zero and shall be expressed in dollars and whole cents per MW. The quantity in each such *price-quantity pair* shall:
- 3.6.2.1 in the case of a *registered facility* other than a *boundary entity*, be expressed in MW to one decimal place and shall not be less than 0.0 MW; or

- 3.6.2.2 in the case of a *registered facility* that is a *boundary entity*, be expressed in whole MW and shall not be less than 0 MW.

The quantity in the first *price-quantity pair* shall be 0.0 MW (or 0.0 MWh/hour) or 0 MW (or 0 MWh/hour) as applicable. The price in the second *price-quantity pair* shall be the same as the price in the first *price-quantity pair*.

- 3.6.3 Each *offer* to provide *operating reserve* shall be accompanied by a corresponding *energy offer* or *energy bid* that covers the same MW range.
- 3.6.4 *Offers* to supply *operating reserve* shall be submitted in such form as may be specified by the *IMO*, which form shall require, at a minimum, provision of all of the information specified in Appendix 7.3, except where the *IMO* specifies an alternative means and/or an alternative simplified form pursuant to section 3.2.2.3.

3.7 Self-Scheduling Generators

- 3.7.1 A *registered market participant* for a *registered facility* that is a *self-scheduling generation facility* shall, under section 2.3 of Chapter 12, submit for the day-ahead market, dispatch data in the form of a self-schedule indicating the amount of energy that the registered market participant reasonably expects to be provided by that self-scheduling generation facility in each dispatch hour of the dispatch day. That self-schedule shall be translated, unchanged, by the IMO to real-time market dispatch data under section 3.3.1 B. If the registered market participant did not submit a self-schedule for the day-ahead market because it did not expect the self-scheduling generation facility to be operating on the dispatch day and that expectation changes after the day-ahead market bid/offer window closes, the registered market participant shall submit dispatch data in the real-time market indicating the amount of *energy* that the *registered market participant* reasonably expects to be provided by that *self-scheduling generation facility* in each *dispatch hour*. Such *dispatch data* shall:

- 3.7.1.1 be submitted to the *IMO* in such form as may be specified by the *IMO*, which form shall require, at a minimum, provision of all of the information specified in Appendix 7.1; and

- 3.7.1.2 comply with section 3.4.4A.

- 3.7.2 A *registered market participant* for a *registered facility* that is a *self-scheduling cogeneration facility* or *self-scheduling enhanced combined cycle facility* shall ensure its *facility* operates in accordance with its *dispatch data* within the tolerances for updating *dispatch data* outlined in section 3.3.8.

3.8 Intermittent Generators

3.8.1 A registered market participant for a registered facility that is an *intermittent generator* shall, under section 2.3 of Chapter 12, submit for the day-ahead market, dispatch data indicating its best forecast of the amount of energy that the intermittent generator will inject in each dispatch hour of the dispatch day. That forecast shall be translated, unchanged, by the IMO to real-time market dispatch data under section 3.3.1B. If the registered market participant did not submit a forecast in the day-ahead market because it did not expect the intermittent generator to be operating on the dispatch day and that expectation changes after the day-ahead market bid/offer window closes, the registered market participant shall submit dispatch data in the real-time market indicating its best forecast of the amount of *energy* that the *intermittent generator* will inject in each *dispatch hour*. Such *dispatch data* shall:

3.8.1.1 be submitted to the *IMO* in such form as may be specified by the *IMO*, which form shall require, at a minimum, provision of all of the information specified in Appendix 7.1; and

comply with section 3.4.4A.

3.8A Transitional Scheduling Generators

3.8A.1 A registered market participant for a registered facility that is a *transitional scheduling generator* shall submit for the day-ahead market, dispatch data indicating its forecast of the amount of energy that the transitional scheduling generator will inject in each dispatch hour of the dispatch day. That forecast shall be translated, unchanged, by the IMO to real-time market dispatch data under section 3.3.1B. If the registered market participant did not submit a forecast in the day-ahead market because it did not expect the transitional scheduling generator to be operating on the dispatch day and that expectation changes after the day-ahead market bid/offer window closes, the registered market participant shall submit dispatch data in the real-time market indicating its forecast of the amount of *energy* that the *transitional scheduling generator* will inject in each *dispatch hour* of the *dispatch day*. Such *dispatch data* shall be submitted to the *IMO* for the initial *pre-dispatch schedule* in accordance with section 3.3.1 and in such form as may be specified by the *IMO*.

3.9 Transmission System Information

3.9.1 Each *transmitter* whose *transmission system* is part of the *IMO-controlled grid* shall provide the *IMO* with the *transmission system* information described in Appendix 7.4 in such form as the *IMO* may specify.

- 3.9.2 Each *transmitter* referred to in section 3.9.1 shall update the information described in Appendix 7.4 so that it is current at the time specified in section 12.1.1A.:
- 3.9.2.1 ~~[Intentionally left blank – section deleted]15:00 EST on the day which is two days prior to the relevant *dispatch day*;~~
- 3.9.2.2 ~~[Intentionally left blank – section deleted]05:00 EST on the *pre-dispatch day*;~~
- 3.9.2.3 ~~[Intentionally left blank – section deleted]10:00 EST on the *pre-dispatch day*; and~~
- 3.9.2.4 ~~[Intentionally left blank – section deleted]any time subsequent to 10:00 EST on the *pre-dispatch day* up to the beginning of the relevant *dispatch hour* if there is a material change in the information required by this section.~~

3.10 De-Commitment and Inability to Connect

- 3.10.1 The *IMO* may, in order to maintain *reliable* operation of the *IMO-controlled grid*, direct a *registered market participant* to withdraw the *dispatch data* related to a *generation facility* that received a *day-ahead market constrained schedule*. Such an *IMO* direction shall be considered a de-commitment of that *generation facility*.
- 3.10.2 A *registered market participant* that receives a de-commitment direction from the *IMO* shall, as soon as practicable, withdraw the *dispatch data* related to that *generation facility*.
- 3.10.3 The *IMO* shall make the following adjustments to the *day-ahead market constrained schedules* and other settlement inputs for a *generation facility* that was de-committed so that the *metered market participant* for the *generation facility* will be eligible for applicable congestion management settlement credit settlement amounts described in sections 3.3E and 3.3F of Chapter 9, and will not be subject to the production cost guarantee commitment adjustment described in section 3.4H of Chapter 9. A de-commitment shall not preclude the *metered market participant* for the *generation facility* from being eligible to receive a production cost guarantee described in sections 3.3F and 3.4G of Chapter 9.
- 3.10.3.1 The *IMO* shall adjust the *day-ahead market constrained schedules* for energy to zero for the applicable *settlement hours*.
- 3.10.3.2 The *IMO* shall adjust the *day-ahead market constrained schedules* for each class of operating reserve to zero for the applicable *settlement hours*.

3.10.3.3 The IMO shall, for each de-commitment direction described in section 3.10.1, provide to the settlement process, sufficient information to determine each *settlement hour* where such de-commitment for the *generation facility* was in effect.

3.10.4 An event where:

- a non-quick start *generation facility* received a financially binding *day-ahead market constrained schedule*, and
- is unable to connect to the *IMO-controlled grid* on the *dispatch day* as a result of events or circumstances directly related to the *IMO-controlled grid* that are beyond the control of the *market participant* for that *generation facility*;

shall, for settlement purposes, be considered a de-commitment.

3.10.5 The IMO shall make the following adjustments to the *day-ahead market constrained schedules* and other settlement inputs for a *generation facility* to which section 3.10.4 apply so that the *metered market participant* for the *generation facility* will be eligible for applicable congestion management settlement credit *settlement amounts* described in sections 3.3E and 3.3F of Chapter 9, and will not be subject to the production cost guarantee commitment adjustment described in section 3.4H of Chapter 9. Events described in section 3.10.4 shall not preclude the *metered market participant* for the *generation facility* from being eligible to receive a production cost guarantee described in sections 3.3F and 3.4G of Chapter 9.

3.10.5.1 The IMO shall adjust the *day-ahead market constrained schedules* for energy to zero for the applicable *settlement hours*.

3.10.5.2 The IMO shall adjust the *day-ahead market constrained schedules* for each class of operating reserve shall be adjusted to zero for the applicable *settlement hours*; and

3.10.5.3 The IMO shall provide to the settlement process, sufficient information to determine each *settlement hour* where the *generation facility* was unable to connect to the *IMO-controlled grid*.

PART 5 – IMO BOARD COMMENTS

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Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00268-R01		
Subject:	Day-Ahead Market – Real-Time Market Integration		
Title:	Inputs to Dispatch Algorithm		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	7	Appendix:	
Sections:	4.4		
Sub-sections proposed for amending:	4.4.2		

PART 2 – PROPOSAL HISTORY – PLEASE REFER TO MR-00268-R01

Version	Reason for Issuing	Version Date
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*.

Refer to MR-00268-R00 for summary and background.

Section 4.4.2 (revised)

This amendment proposes to specify that that the dispatch data translated by the IMO under the proposed sections 3.3.1A, 3.3.1B and 3.3.1C would be considered as a valid offer for the purposes of representing the cost to suppliers of energy and operating reserve. This amendment is proposed in order to provide clarity as to the use of the translated dispatch data.

PART 4 – PROPOSED AMENDMENT

4.4 Inputs to the Dispatch Algorithm

4.4.1 The *IMO* shall use as inputs to the *dispatch algorithm* the data and information outlined in section 4.4 and described in more detail in Appendix 7.5.

4.4.1A [Intentionally left blank]

4.4.2 The cost to suppliers of *energy* and *operating reserves* and the value to *dispatchable loads* of delivered electricity shall be based on the most recent valid *offers* and *bids* (including standing *dispatch data* and *dispatch data resulting from IMO translation under sections 3.3.1A, 3.3.1B and 3.3.1C*) submitted by *registered market participants* with respect to *dispatchable generation facilities* and *dispatchable load facilities*.

4.4.3 Subject to section 4.4.3A, the price-insensitive load to be met shall be the sum of:

4.4.3.1 the net energy injections (injections minus withdrawals) by all non-dispatchable load facilities, self-scheduling generation facilities and intermittent generators and transitional scheduling generators; and

4.4.3.2 any net amount by which the actual net injections (injections minus withdrawals) by all *dispatchable generation facilities* and *dispatchable load facilities* is less than the net amount implied by the *IMO's dispatch instructions* to such *facilities*.

- 4.4.3A Until such time that locational pricing is implemented in the *IMO-administered markets*, the price-insensitive load to be met shall be determined solely on the basis of the net *energy* injections referred to in section 4.4.3.1.
- 4.4.4 Limits on *inertie* flows between the *integrated power system* and neighbouring *transmission systems* shall be based on:
- 4.4.4.1 a simple model that assumes that each *inertie meter* is *connected* to an isolated *inertie zone* by a single transmission line;
 - 4.4.4.2 the *IMO's* best estimate of the maximum flow on the single transmission line to each *inertie zone*, given the status of the neighbouring *transmission systems* and expected or actual unscheduled flows (including as unscheduled flows any flows planned by the *IMO* to balance interchange accounts with other *control area operators*); and
 - 4.4.4.3 a net *interchange schedule* limit to represent the *integrated power system's* ability to respond to hourly *interchange schedule* deviations and maintain the *reliability* of the *IMO-controlled grid*.
- 4.4.5 Constraints on the use of the *IMO-controlled grid* shall be determined on the basis of such system *security* requirements as the *IMO* may determine necessary to maintain *reliable* system operations, which requirements shall include, at a minimum, the following:
- 4.4.5.1 the largest applicable *contingency events* and any increments above these required to satisfy applicable *reliability standards*;
 - 4.4.5.2 *security* constraints on identified *facilities*;
 - 4.4.5.3 minimum requirements for each class of *operating reserve*;
 - 4.4.5.4 the *IMO's* commitments to neighbouring *transmission systems* for *operating reserves* and regulation;
 - 4.4.5.5 the availability and need for contracted *ancillary services* and *reliability must-run resources*; and
 - 4.4.5.6 *reliability* constraints associated with *interchange schedules* as referred to in section 4.4.4.3.
- 4.4.6 The following basic parameters of the *dispatch algorithm* shall be as specified from time to time by the *IMO Board*:
- 4.4.6.1 the *maximum market clearing price* or *MMCP* that defines the maximum allowable price for *energy*, and the negative of which defines the minimum allowable price for *energy*;

4.4.6.1A the *maximum operating reserve price* or *MORP* that defines the maximum allowable price for any class of *operating reserve*; and

4.4.6.2 the penalty functions for the violation of *dispatch algorithm* constraints.

If the output of the *dispatch algorithm* fails to satisfy *non-dispatchable demand* or the *operating reserve requirements* for any class of *operating reserve* then, subject to section 8.2.2, the penalty functions referred to in section 4.4.6.2 may influence the calculation of *market prices* for *energy* and *operating reserve* in a similar fashion to *offers* and *bids*.

4.4.7 *Interchange schedule data* shall be input as a constant value for the given *dispatch hour* unless otherwise specified by the *IMO* and shall be derived in accordance with the outputs of the *dispatch algorithm* for each *dispatch hour* as determined under section 4.6.

PART 5 – IMO BOARD COMMENTS

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Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00268-R02		
Subject:	Day-Ahead Market – Real-Time Market Integration		
Title:	The Pre-Dispatch Scheduling Process		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	7	Appendix:	
Sections:	5		
Sub-sections proposed for amending:	5.1.2; 5.2.1.1; 5.5.1		

PART 2 – PROPOSAL HISTORY – PLEASE REFER TO MR-00268-R00

Version	Reason for Issuing	Version Date
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*.

Refer to MR-00268-R00 for summary and background.

Sections 5.1.2 and 5.5.1 (revised)

These sections are proposed to be amended to refer to the revised timing for the determination and release of the first pre-dispatch schedule information for the dispatch day. In order to incorporate the results of the day-ahead market and translation of day-ahead market dispatch data to the real-time market, the first release and publication of pre-dispatch schedule results for the dispatch day are proposed to be changed from by 12:00 EST to by 17:00 EST of the pre-dispatch day. The IMO shall continue to revise and re-issue the pre-dispatch schedule as conditions change as currently prescribed in section 5.1.3 of chapter 7.

Section 5.2.1.1 (revised)

This section is proposed to be amended to include explicitly the dispatch data from the day-ahead market translated by the IMO under the proposed sections 3.3.1.A – 3.3.1C as inputs to the pre-dispatch schedule.

PART 4 – PROPOSED AMENDMENT

5. The Pre-dispatch Scheduling Process

5.1 Purpose and Timing of Pre-dispatch Schedules

- 5.1.1 The *IMO* shall determine *pre-dispatch schedules* in order to provide itself and *market participants* with advance information and projections necessary to plan the physical operation of the *electricity system*.
- 5.1.2 The *IMO* shall determine an initial *pre-dispatch schedule* for the 24 *dispatch hours* of each *dispatch day* no later than ~~12~~17:00 EST on the *pre-dispatch day*.
- 5.1.3 The *IMO* shall prepare a revised *pre-dispatch schedule* for each *dispatch day* whenever the *IMO* determines that changed circumstances have made the previous *pre-dispatch schedule* materially incorrect. A revised *pre-dispatch*

schedule shall be determined only for *dispatch hours* following the changes that make it necessary.

- 5.1.4 Each time the *IMO* determines a *pre-dispatch schedule*, it shall also determine the associated projected *market prices* for *energy* and *operating reserve* and the associated projected *market schedule*.
- 5.1.5 The *IMO* shall *publish* and release to *market participants* each *pre-dispatch schedule* as provided in section 5.5. The most recently *published pre-dispatch schedule* shall supersede all previous *pre-dispatch schedules* for the same *dispatch hours*.

5.2 Information Used to Determine Pre-dispatch Schedules

- 5.2.1 The *IMO* shall use the following information for determining and updating the *pre-dispatch schedule* in accordance with section 5.3, using in each case the most current valid information:
- 5.2.1.1 *dispatch data* submitted by *registered market participants*, including *dispatch data* resulting from *IMO* translation under sections 3.3.1A, 3.3.1B and 3.3.1C;
- 5.2.1.2 the *IMO*'s own forecasts of *non-dispatchable load*, adjusted using applicable amounts determined pursuant to section 5.6.1, and of generation by *intermittent generators*, *transitional scheduling generators* and *self-scheduling generation facilities* with name-plate ratings of less than 10 MW;
- 5.2.1.3 the *transmission system* information provided by each *transmitter* pursuant to section 3.9;
- 5.2.1.4 the amount and location of *contracted ancillary services* under contract to the *IMO*;
- 5.2.1.5 the expected initial loading of each generator and *dispatchable load*, as determined based on the most current *pre-dispatch schedule* or, if applicable, *real-time schedule*; and
- 5.2.1.6 such other available information as the *IMO* determines appropriate including the *interchange schedule data* which are a result of the applicable *interchange schedule* protocol as defined in the applicable *market manual* and which may result in setting an upper limit for *energy* quantities scheduled in subsequent *pre-dispatch schedules*.

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5.5 Release of Pre-dispatch Schedule Information

- 5.5.1 The *IMO* shall release the initial *pre-dispatch schedule* and associated projections of *market schedules* and shall publish *market prices* by ~~12~~17:00 EST of each *pre-dispatch day*, and shall release any revised *pre-dispatch schedules* and projections of *market schedules* and shall publish *market prices* as soon as practical after they are determined. The information to be released to *market participants* is described in this section 5.5.
- 5.5.2 For each *registered facility* that is a *boundary entity*, a *dispatchable load facility* or a *dispatchable generation facility* in respect of which a valid *bid* or *offer* for at least one *dispatch hour* of the applicable *dispatch day* has been submitted, the *IMO* shall release the following information only to the *registered market participant* for that *registered facility*:
- 5.5.2.1 the pre-dispatch schedule for that registered *facility*;
 - 5.5.2.2 the projected market schedule for that registered *facility*; and
 - 5.5.2.3 [Intentionally left blank]
 - 5.5.2.4 any requirement of that *registered facility* to submit an *offer* or *bid* under a *reliability must-run contract* and the expected scheduled use of that *registered facility* under *contracted ancillary service* contracts.
- 5.5.3 The *IMO* shall release to all *market participants* the following information for each *dispatch hour*:
- 5.5.3.1 total system load and total system losses;
 - 5.5.3.2 area *operating reserve* requirements;
 - 5.5.3.3 [Intentionally left blank]
 - 5.5.3.4 projected hourly *energy* shortfalls;
 - 5.5.3.5 aggregate *reliability must-run resources* being directed to submit *offers* or *bids*;
 - 5.5.3.6 any area *operating reserve* shortfalls;
 - 5.5.3.7 a list of the network constraints and *security* constraints that affect the *pre-dispatch schedule*;
 - 5.5.3.8 the most current system status report prepared pursuant to section 12.1;

- 5.5.3.9 the projected uniform market prices of *energy* and *operating reserves* in the *IMO control area*; and
- 5.5.3.10 the projected market prices of energy and operating reserves in each intertie zone outside the IMO control area.
- 5.5.3A Until the date that is the first day of the fourth calendar month following the *market commencement date*, calculated from the first day of the calendar month immediately following the month in which the *market commencement date* occurs, the *IMO* shall not be required to release the prices of each class of *operating reserve* referred to in section 5.5.3B.2.
- 5.5.3B Where the *IMO* determines and releases a *pre-dispatch schedule*, the *IMO* shall include in such *pre-dispatch schedule*, for information purposes only:
- 5.5.3B.1 the projected *energy prices* at each set of transmission nodes identified by the *IMO* for this purpose; and
- 5.5.3B.2 subject to section 5.5.3A, the projected prices of each class of *operating reserve* in each reserve area identified by the *IMO* for this purpose,
- for the *dispatch hour* immediately following the hour in which such *pre-dispatch schedule* is determined and released.
- 5.5.4 If the *IMO* determines that release of specific types of information in the *pre-dispatch schedule* may facilitate anti-competitive behaviour, the *IMO* may limit the release of such information through an *urgent amendment* to these *market rules* and shall refer the matter to the *market surveillance panel* which panel shall advise the *IMO Board* of the need or otherwise for the *urgent amendment* to remain in effect.

PART 5 – IMO BOARD COMMENTS

Insert Text Here



Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00268-R03		
Subject:	Day-Ahead Market – Real-Time Market Integration		
Title:	IMO System Status Reports		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	7	Appendix:	
Sections:	12		
Sub-sections proposed for amending:	12.1.1; 12.1.1A (new), 12.1.1B (new)		

PART 2 – PROPOSAL HISTORY – PLEASE REFER TO MR-00268-R00

Version	Reason for Issuing	Version Date
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*.

Refer to MR-00268-R00 for summary and background.

As a result of the introduction of the day-ahead market changes are required to the IMO obligations regarding publication of system status reports. These reports provide market participant with the current status of the IMO-controlled grid, including demand forecasts, status of transmission interfaces and available generation capacity.

(NTD: day-ahead market timelines are under review and this review may result in a change to the timing of system status reports and proposed consequential amendments regarding market participant information submissions for those reports.)

Section 12.1.1 (revised)

In order to provide market participants with a current system status report with sufficient time to assess the information contained and respond as they wish (e.g. revise day-ahead market offers or bids), it is proposed that the IMO publish a system status report be publishes at 09:00 EST of the pre-dispatch day, one hour before the close of the day-ahead market offer/bid window.

The determination of the first pre-dispatch schedule is proposed to be moved to 17:00 EST (refer to MR-00268-R02). In order to provide market participants with a current system status report with sufficient time to assess the information contained and respond as they wish (e.g. revise real-time market offers or bids), it is proposed that the IMO publish a system status report be publishes at 15:30 EST of the pre-dispatch day, thirty minutes before the close of the offer/bid window for the initial pre-dispatch schedule.

Sections 12.1.1A and 12.1.1B(new)

These new sections propose to incorporate market participant obligations regarding the timing of provision of current information so that the subsequent system status report may reflect that information. These new provisions would replace the existing section 3.9.3 of Chapter 12 (refer to MR-00268-R00) regarding transmitter updates of transmission system information specified in Appendix .4 of the market rules. Since the transmitter information is provided primarily for the production of the system status reports, it is judged appropriate that the obligation on transmitters be included in the market rules section dealing with the publication of these reports.

It is also proposed to introduce an new obligation on all market participants to provide the IMO with updates to approved outage plans for a given dispatch day by 08:00 EST of the corresponding pre-dispatch day. This new obligation is proposed so that the system status report produced at 09:00 EST (i.e. an hour before the close of the day-ahead market offer/bid window) will be based on the most current information.

This latter obligation represents a formalization of an existing obligation on market participants to keep the IMO informed of the status of approved outages (refer to sections 6.4 of Chapter 6). Formalizing this obligation to the production of the system status report prior to the closing of the day-ahead market

PART 3 – EXPLANATION FOR PROPOSED AMENDMENT

offer/bid window will ensure that that 09:00 EST system status report will be based on the most current information.

PART 4 – PROPOSED AMENDMENT

12. Status Reports, Advisories, and Protocols

12.1 IMO System Status Reports

12.1.1 The *IMO* shall *publish* system status reports with respect to each *dispatch day* at the following times:

12.1.1.1 15:30 EST of the day two days prior to the *dispatch day*;

12.1.1.2 05:30 EST of the *pre-dispatch day*;

12.1.1.3 ~~10:30~~09:00 EST of the *pre-dispatch day*;

12.1.1.3A 15:30 EST of the *pre-dispatch day*;

12.1.1.4 any time of the *pre-dispatch day* subsequent to ~~10~~15:30 EST if there is a material change to the information in the previous system status report for the *dispatch day*; and

12.1.1.5 any time during the *dispatch day*, for the current and remaining *dispatch hours* of the *dispatch day*, if there is a material change to the information in the previous system status report for such *dispatch hours*.

12.1.1A In order to that current information is used for the above system status reports, each transmitter referred to in section 3.9.1 shall update the information described in Appendix 7.4 so that it is current at:

12.1.1A.1 15:00 EST on the day which is two days prior to the relevant *dispatch day*;

12.1.1A.2 05:00 EST on the *pre-dispatch day*;

12.1.1A.3 08:00 EST on the *pre-dispatch day*;

12.1.1A.4 15:00 EST on the *pre-dispatch day*; and

12.1.1A.5 any time subsequent to 15:00 EST on the *pre-dispatch day* up to the beginning of the relevant *dispatch hour* if there is a material change in the information required by this section.

12.1.1B In order that current outage information is used for the system status report that precedes the closing of the *day-ahead market offer/bid* window, each *market participant* shall provide the *IMO* with updates to the *market participant's* approved outage plan for the *dispatch day* by 08:00 EST on the *pre-dispatch day*.

PART 5 – IMO BOARD COMMENTS

Insert Text Here



Market Rule Amendment Proposal

PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00268-R04		
Subject:	Day-Ahead Market – Real-Time Market Integration		
Title:	Updates of Approved Outage		
Nature of Proposal:	<input type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input checked="" type="checkbox"/> Addition
Chapter:	5	Appendix:	
Sections:	6.4		
Sub-sections proposed for amending:	6.4.8A (new)		

PART 2 – PROPOSAL HISTORY – PLEASE REFER TO MR-00268-R00

Version	Reason for Issuing	Version Date
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*.

Refer to MR-00268-R00 for summary and background.

To provide additional transparency regarding the proposed market participant obligation to provide the IMO with updates to approved outage plans for a given dispatch day by 08:00 EST of the corresponding pre-dispatch day (refer to MR-00268-R03), it is proposed to include a reference to this new obligation in section 6 of Chapter 5, which contains the Outage Coordination provisions. This reference is not proposed to repeat the specific timing of the obligation so that if the timing changes, this rule provision would not need to be amended.

PART 4 – PROPOSED AMENDMENT

6.4 Confirmation of Outage Schedules and IMO Approval of Outage Schedules

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Extensions and Updates

- 6.4.7 Each *market participant* shall notify the *IMO* if a *planned outage* which has been approved by the *IMO* will have a duration which exceeds the duration originally approved by the *IMO*, which notice shall include a request that the *IMO* approve the extension. Such notice shall be provided to the *IMO* as soon as possible and will be treated as a new *outage* request.
- 6.4.8 If the *IMO* determines that an extension to the duration of a *planned outage* will or is reasonably likely to adversely affect the *reliability* of the *IMO-controlled grid* or will or is reasonably likely to require the re-scheduling of a *planned outage* confirmed to the *IMO* pursuant to section 6.4.1 or the revoking of advance approval, deferral or recall of a *planned outage* approved pursuant to section 6.4.4, the *IMO* shall reject such extension and the *market participant* shall use its reasonable best efforts to ensure that the duration of the *planned outage* does not exceed the duration originally approved by the *IMO* or such longer period as the *IMO* may advise in rejecting the extension requested.

6.4.8A Each *market participant* shall provide the *IMO* with updates to the *market participant's* approved outage plan for the *dispatch day* as specified in section 12.1.1B of Chapter 7.

PART 5 – IMO BOARD COMMENTS

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