



Market Rule Amendment Submission

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

Email Address: Rule.Amendments@theIMO.com

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

Subject: *Market Rule Amendment Submission*

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

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

PART 1 –SUBMITTER’S INFORMATION

Please enter contact information in full

Name: IMO Staff	
(if applicable) <i>Market Participant / Metering Service Provider No.</i> ¹ : N/A	Market Participant Class: N/A
Telephone: 416 506-2801	Fax: 416 506-2847
Email Address: rule.amendments@theimo.com	

PART 2 – MARKET RULE AMENDMENT SUBMISSION INFORMATION

Subject: System Operations and Physical Markets – Dispatch Data Submissions		
Title: Allow Unrestricted Revisions to Dispatch Data up to 2 Hours Ahead of Dispatch Hour		
Nature of request (please indicate with X): <u> X </u> Alteration __ Deletion __ Addition __ Clarification		
Chapter: 7	Appendix:	Sections: 3.3
Sub-sections proposed for amending/clarifying : 3.3.3; 3.3.4; 3.3.6		

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

PART 3 – DESCRIPTION OF THE ISSUE

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

In mid-November 2002, the IMO initiated a trial that allowed market participants to make unrestricted revisions to dispatch data up to 2 hours ahead of the applicable dispatch hour. The current market rules allow unrestricted revisions to dispatch data up to 4 hours ahead of the applicable dispatch hour, and impose some restrictions to revisions of dispatch data made in the period between 4 and 2 hours before the applicable dispatch hour.

For the most part, the experience of the trial has been positive for both market participants and the IMO. The ability to make unrestricted revisions to dispatch data up to 2 hours ahead of the dispatch hour should be made a permanent feature of the IMO-administered markets.

Background

The trial was initiated as part of the work of the IMO team established to investigate and address the following three market pricing issues:

- Pre-dispatch price is not a reliable indicator of real-time HOEP;
- Frequently, at times of market shortage, market prices drop in a counter-intuitive manner; and
- Size, content and variability of hourly uplift charges.

One of the significant contributing factors to the market pricing issues is the sensitivity of the market to market or system changes that occur between the pre-dispatch and real-time timeframes. These changes could include events such as failed intertie transactions, forced outages or deratings of dispatchable resources, and the discrepancy between the forecast of self-scheduling generation and actual production. Market participants, when permitted to make only limited changes to dispatch data after 4 hours before the dispatch hour, are only able to react in a limited manner to any market or system changes occurring in the period between 4 hours ahead of the dispatch hour and the dispatch hour.

The trial was established to determine that if the market were allowed additional time to revise dispatch data with no restrictions, could and would it respond to changes in the market that occur after 4 hours before the dispatch hour. During the trial a number of parameters were monitored and compared to conditions prior to the trial in order to determine the success of the trial. These parameters were:

- Difference between the pre-dispatch and real-time prices; and
- Number of failed intertie transactions.

In addition to this quantitative assessment, the IMO also assessed the impacts of the trial on the reliable operation of the IMO-controlled grid. Qualitative feedback from market participants was also solicited on an ad hoc basis as to their experience during the trial. The trial would be considered a success if, at a minimum, there was (i) no change in the parameters noted above, (ii) no negative impacts on the reliable operation of the IMO-controlled grid, and (iii) no negative impact on market participants. In other words, the trial would be judged a success if the market and the system were no worse off than before the trial.

Results of the Trial

PART 3 – DESCRIPTION OF THE ISSUE

The results and experience of the trial have been generally positive, from both the market participants' and the IMO's perspectives. The quantitative results of the trial are attached (refer to Tables 1, 2 and 3 attached).

Table 1 compares the convergence of pre-dispatch prices before and during the trial. The results show that during the trial, pre-dispatch prices from 2 to 8 hours ahead of real-time showed a greater convergence to the hour-ahead pre-dispatch price than before the trial. Both the mean difference and the standards deviation are smaller during the trial than before the trial.

Table 2 compares the convergence of pre-dispatch prices and the real-time HOEP before and during the trial. The results show that during the trial, the differences between the pre-dispatch prices and the real-time HOEP were smaller than before the trial. Both the mean difference and the standards deviation are smaller during the trial than before the trial. The maximum differences were typically smaller during the trial than before the trial.

Table 3 compares the rate of failures of intertie transactions before and during the trial. The failure rate of both imports and exports was lower during the trial than before.

Although the quantitative results are positive, many other factors were at play before and during the trial that would have contributed to the improvement in price convergence and failure of intertie transaction. These factors would include changes to the intertie transaction scheduling protocols, differences in demand levels etc. The improvements cannot be attributed solely to the trial.

A qualitative assessment of the trial indicated that market participants were in favour of the increased flexibility afforded them. The IMO also determined that there were no adverse impacts on the reliable operation of the IMO-controlled grid.

The only negative finding in the trial was that the IMO was unable to accept some specific revisions made close to the 2-hour time limit. These specific revision types included:

- the submission of new dispatch data; or
- the removal of existing dispatch data; or
- the addition/removal of price-quantity pairs within exiting dispatch data.

Due to limitations of the existing market software, the IMO has to manually approve these types of revisions. In some circumstances there was insufficient time for the IMO to approve, and therefore accept and incorporate, all such revisions made close to the 2-hour time limit. Until the IMO can implement the necessary market software changes, unrestricted revisions to dispatch data of the 3 types noted above should only be permitted up to 2 hours and 15 minutes before the dispatch hour. This would ensure that the IMO would have sufficient time to accept/approve the revisions and that the revisions are factored into the appropriate scheduling sequences and interchange transaction protocols.

PART 4 – PROPOSAL (BY SUBMITTER)

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

Section 3.3 of chapter 7 of the market rules should be amended to permit market participants to make unrestricted changes to their dispatch data up to 2 hours before the dispatch hour. Unrestricted revisions of the following types would only be allowed up to 2 hours and 15 minutes before the dispatch hour until such time that the IMO implements market software changes that would eliminate the need for manual approval of such revisions:

- the submission of new dispatch data; or
- the removal of existing dispatch data; or
- the addition/removal of price-quantity pairs within exiting dispatch data.

IMO approval of any changes between 2 hours before and the actual dispatch hour should be retained.

PART 5 – FOR IMO USE ONLY

Technical Panel Decision on Rule Amendment Submission	
MR number: MR-00232	
Date submitted to Technical Panel: 16 April 2003	
Accepted by Technical Panel as: <input checked="" type="checkbox"/> General <input type="checkbox"/> Urgent <input type="checkbox"/> Minor (please indicate with X)	Date: 22 April 2003
Criteria for acceptance: Identifies means to better enable the market to satisfy the market design principles, specifically the principle of market efficiency. This change would enhance participants' choices in conducting commercial transactions and encourage generation and delivery of electricity that meets needs of customers at least cost.	
Priority: Medium	
Criteria for assigning priority: The suggested change would impact all market participants who submit dispatch data, however the trial will continue until the market rules are amended, i.e. the change is already effectively realized within the market.	
Not accepted (please indicate with X):	
Clarification/interpretation required (please indicate with X):	
Technical Panel minutes reference: IMOTP 125-1	
Technical Panel Comments:	

Table 1**Convergence of Pre-Dispatch Prices Before and During Trial**

Variable	Period Before Trial Started May 1 – Nov 15		Period During Trial Nov 16 – Mar 31	
	Mean ¹	Standard Deviation ²	Mean ²	Standard Deviation
2-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	8.15	65.23	4.40	18.73
3-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	11.16	74.64	9.62	33.08
4-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	12.71	78.14	13.04	45.95
5-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	18.90	95.83	16.51	66.66
6-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	21.22	103.08	19.44	75.05
7-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	24.07	112.64	21.10	64.98
8-Hour Ahead Pre-Dispatch Price <i>minus</i> Hour-Ahead Pre-Dispatch Price	27.07	126.21	24.46	83.58

Table 2**Convergence of Pre-Dispatch and Real-Time Prices Before and During Trial**

Variable	Period Before Trial Started May 1 – Nov 15			Period During Trial Nov 16 – Mar 31		
	Mean ¹	Maximum ³	Standard Deviation ²	Mean ¹	Maximum	Standard Deviation ²
1 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	35.52	1,949.23	169.22	27.22	1,723.02	68.37
2 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	33.95	1,918.13	161.62	27.05	1,723.02	68.03
3 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	35.38	1,918.13	168.23	28.76	1,813.02	76.46
4 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	35.64	1,915.29	166.81	30.55	1,923.02	84.23
5 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	38.84	1,932.29	172.06	32.76	1,923.02	99.13
6 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	39.93	1,929.38	174.24	34.54	1,923.02	106.83
7 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	41.48	1,929.04	179.68	35.90	1,937.19	101.92
8 Hour-Ahead Pre-Dispatch <i>minus</i> Real-Time -HOEP	43.01	1,932.17	186.32	38.61	1,937.19	118.87

¹ Mean Difference is the arithmetic average of the absolute differences between the prices for all the hours in the sample period.

² Standard deviation of the absolute differences between the prices for all the hours in the sample period.

³ Maximum is the largest absolute difference between the prices witnessed in an hour in the sample period.

Table 3**Range of Intertie Transaction Failure Rates Before and During Trial**

Intertie Transaction	Monthly Failure Rate⁴ (%) Before Trial	Monthly Failure Rate (%) During Trial
Imports into Ontario	1.9 - 6.1	1.8 – 3.2
Exports from Ontario	10.7 – 63.1	6.1 – 8.1

⁴ Total MWh of intertie transactions that failed during a month expressed a percentage of the total MWh of intertie transactions scheduled for each hour of the month