



IMO Staff Recommendation to Panel on Exemption Application (General)

PART 1 – GENERAL INFORMATION

Market Participant Name: **Ivaco Rolling Mills Limited Partnership (IRMLP)**

Location/Site:

Exemption Application ID: 01-1164

Market Participant ID:

Description of Exemption Requested: **A. Exemption from requirement to be compliant with dispatch instruction for up to three intervals in a dispatch hour for the Real-Time Energy Market.**

B. Exemption to be compliant with notification to the IMO of non-compliance to dispatch instructions for the Real-Time Energy Market.

Date Exemption Application Received: October 11, 2001

Date all relevant application information supplied by applicant: October 11, 2001

IMO Management Approvals Obtained (YES or NO): YES

Are there any outstanding disputes, compliance actions, or pending market rule amendments involving the subject matter of this exemption application? (YES or NO): NO
(if YES, see attachments)

Are there any outstanding disputes, compliance actions, or pending market rule amendments involving the exemption applicant? (YES or NO): NO
(if YES, see attachments)

Section of the *Exemption Application and Assessment Procedure* under which the Exemption Application is made:

- *Section 1.4.1*

Market Rule(s) or related Market Manual(s) from which exemption is requested (copy of Market Rule(s) or Manual(s) attached): *Market Rules Baseline 7.0, Chapter 7: Subsections 7.5.1 and 7.5.2.*

Third Party Submissions Received (YES or NO):

Supplemental Assessment Information Attached (YES or NO): YES See Appendix A: Discussion of Batch Type Dispatchable Load

PART 1 – GENERAL INFORMATION

Related Historical Exemption Application(s) or Related Exemption Application(s) in Process (YES or NO):
NO

N. B. If YES, see attached History of Exemption Applications

Role of applicant in the market as it relates to this exemption application: Dispatchable Load

Part 2 – Recommendation

Recommendation: A. GRANT the exemption with conditions.

B. GRANT the exemption with conditions.

Criteria Used in Assessment of General Exemption Applications (Section 1.4.2 of *Exemption Application and Assessment Procedure*):

(If X appears in a box, the criterion is applicable to this exemption application and is evaluated in Part 3 – Details of Assessment; if X does not appear in a box, the criterion is not applicable to this exemption application.)

Whether the exemption that is the subject-matter of the exemption application would, if granted, materially:

- impact the ability of the IMO to direct the operations and maintain the reliability of the IMO-controlled grid; ☒

Comment: See “Impact on reliability of the IMO-controlled grid” section in Part 3

- impact the ability of the IMO to ensure non-discriminatory access to the IMO-controlled grid; ☐

Comment: : Granting an exemption from the requirement to be compliant with its dispatch instruction for up to three intervals does not impact on the ability of the IMO to provide access to the IMO-controlled grid.

- affect the ability of the IMO to operate the IMO-administered markets in an efficient, competitive, and reliable manner; ☒

Comment: See “Impact on IMO ability to operate the IMO-administered markets” in Part 3

- increase costs of market participants; or ☐

Comment: Granting an exemption from the requirement to be compliant with its dispatch instruction for up to three intervals does not increase the costs to other market participants required to meet this obligation.

- increase costs of the IMO; ☐

Comment: Granting this exemption does not increase the cost to the IMO.

Whether the exemption that is the subject-matter of the exemption application would, if granted, give the exemption applicant an undue preference in the IMO-administered markets; ☒

Comment: See "Undue Preference in the IMO-administered markets" section of Part 3

Whether the cost or delay to the exemption applicant of complying with the obligation or standard to which the exemption application relates is reasonable, having regard to the nature of the obligation or standard, the nature of the exemption application and the anticipated impact of non-compliance by the exemption applicant in terms of the elements referred to above; ☒

Comment: See "Cost to Comply" section of Part 3

The adequacy of the exemption plan submitted by the exemption applicant; ☐

Comment: No exemption plan is required.

Where the exemption applicant is the IMO, the identification of the benefit to market participants of compliance with the obligation or standard relative to the financial and other resources required to achieve compliance within such deadlines as may be applicable; ☐

Comment: Applicant is not the IMO.

Where the exemption applicant is the IMO, the manner in which it proposes to operate in the IMO-administered markets or direct the operations and maintain the reliability of the IMO-controlled grid during the period in which the exemption would be in effect; ☐

Comment: Applicant is not the IMO.

Whether the facility or equipment that is the subject-matter of the exemption application:

- was in service or was returned to service on the date on which the obligation or standard to which the exemption application relates came into force; ☒

Comment: The facility that is the subject matter of the exemption application was in service on the date on which the obligation or standard to which the exemption relates came into force

- was ordered by the exemption applicant on or prior to the date on which the obligation or standard to which the exemption application relates came into force; or ☐

- was in the process of construction on or prior to the date on which the obligation or standard to which the exemption application relates came into force; and ☐

The capability of the owner of the facility to operate the facility consistent with the terms of the proposed exemption. ☐

Comment: The terms and conditions of the recommendation do not require the applicant to operate in a manner outside of the capabilities of the equipment.

PART 3 – DETAILS OF ASSESSMENT

Station Description:

IRMLP is an electric furnace steelmaker and steel wire rod rolling mill located in L'Orignal, Ontario, on the Ottawa river about 80 km east of Ottawa.

Exemptions Request:

- A. IRMLP is seeking an exemption from the requirement to be compliant with its dispatch instructions for up to three consecutive intervals in a dispatch hour for the Real-Time Energy Market, due to their typical process requirements.
- B. IRMLP is seeking an exemption from the requirement to be compliant with its notification obligation to dispatch instructions for the Real-Time Energy Market.

Market Rule Requirement:

Subsection 7.5.1 of Chapter 7 requires each registered facility to comply with dispatch instructions subject to the notification, pricing and penalty provisions of the market rules.

Subsection 7.5.2 of Chapter 7 requires the registered market participant to notify the IMO if there is an expected material difference in operations from the IMO's dispatch instructions.

Assessment:

Undue preference in the IMO-administered markets:

The market rules relating to compliance with dispatch are fundamentally designed with generation facilities in mind. The IMO has recognized this, and early last year began evaluating options to facilitate the entry of dispatchable loads into the IMO-administered markets. ("Appendix A: Discussion of Batch Type Dispatchable Load" was the result of a stakeholdering task force to investigate this issue and is provided as background information only for this exemption. Please note this document pre-dates the current exemption process.)

At that time, it was determined that the most efficient way to facilitate the incorporation of dispatchable loads was through facility specific exemptions. Considering the exemption process is open to all Market Participants, granting this exemption does not constitute giving IRMLP undue preference in the IMO-administered markets.

Impact on reliability of the IMO-controlled grid and the operation of the Operating Reserve Market:

IRMLP does have the capability of complying with activation instructions for the operating reserve market. Thus, the granting of the exemption will have no impact on reliability of the grid or operation of the Operating Reserve Market.

Impact on the operation of the IMO-controlled grid and the Energy Market:

Since IRMLP does have difficulty complying with **all** dispatch instructions in the dispatch hour, there is an impact on the ability of the IMO to operate the IMO Controlled Grid and Energy market. The conditions proposed by IRMLP with respect to their bidding strategy will minimize this impact to an acceptable level. These conditions are consistent with the stakeholder effort detailed in Appendix A and incorporated in this recommendation. For greater detail of how these conditions will minimize the impact of this exemption refer to the Appendix.

PART 3 – DETAILS OF ASSESSMENT

MANNER OF OPERATION DURING THE TERM OF THIS EXEMPTION:

BIDDING STRATEGY

IRMLP bids for energy shall reflect the average consumption when the load is running (i.e. neglect the effects of periods of zero consumption). This will reduce the amount of non-compliance alarms from the tools for energy dispatch, and reduce the number of dispatch instructions.

IRMLP will make its offers for Operating Reserve based on average consumption per dispatch hour (including the entire hour whether running or not). This strategy ensures fairness of payments to the successful bidders into the Operating Reserve Market.

OPERATING STRATEGY

The following operating strategy and notification to the IMO will apply only to periods when IRMLP has submitted offers for the Operating Reserve Market and is operating as a dispatchable load:

Operation for the Energy Market:

In all circumstances identified below, IRMLP will submit energy bids between full and zero consumption, which reflect their average consumption.

- If IRMLP is at zero load when dispatched to zero, it will reject the dispatch instruction and will remain at zero until dispatched above zero.
- If IRMLP is either at full or zero consumption and is dispatched to a level other than full or zero consumption, there are two possibilities:
 1. If the dispatch instruction is to 50% of its bid or more, IRMLP will reject the dispatch instructions and will dispatch to full consumption.
 2. If the dispatch instruction is to less than 50% of its bid, IRMLP will accept the dispatch instructions and will dispatch to zero consumption.
- If IRMLP is at zero load and is dispatched to full consumption and cannot comply within the five-minute interval because of operating characteristics, it will respond that it cannot comply. The facility will remain at zero consumption until the next dispatch interval and then the next dispatch instruction can be considered.

OUTAGES

Normal operations lead to occasional equipment outages of up to four consecutive dispatch intervals.

When IRMLP is bidding in the Operating Reserve Market, outages of four consecutive dispatch intervals or more will be reported by normal outage processes.

Cost to Comply:

Cost of compliance to the market rules for which IRMLP is seeking an exemption from is not applicable. The denial of this exemption constitutes a lost opportunity for IRMLP to participate as a dispatchable load in the real-time energy and operating reserve markets.

PART 3 – DETAILS OF ASSESSMENT

Recommendation:

- A. GRANT IRMLP an exemption from Section 7.5.1 for compliance to dispatch instructions for up to three consecutive intervals within an hour for the Real-Time Energy Market. The following conditions define compliance to dispatch instructions considering IRMLP operational characteristics.
- B. GRANT the request for exemption from notification to IMO of non-compliance to dispatch instructions for the Real-Time Energy Market. The proposed circumstances under which IRMLP would notify the IMO of non-compliance are different than those required by the Market Rules. IRMLP requires an exemption from the Rule requirements. An exemption from this requirement is broader than the three consecutive dispatch intervals in recommendation A.

Conditions for Exemption Approval:

Submission of Energy Bids and OR Offers

- IRMLP will make its energy bids based on the average consumption of the process while running (average of the non-zero time periods).
- IRMLP will make its offers for Operating Reserve based on average consumption per dispatch hour (including the entire hour whether running or not).

The following operating strategy and notification to the IMO will apply only to periods when IRMLP has submitted offers for the Operating Reserve Market and is operating as a dispatchable load:

- If IRMLP is at zero load when dispatched to zero, it will reject the dispatch instruction and will remain at zero until dispatched above zero.
- If IRMLP is either at full or zero consumption and is dispatched to a level other than full or zero consumption, there are two possibilities:
 1. If the dispatch instruction is to 50% of its bid or more, IRMLP will reject the dispatch instructions and will dispatch to full consumption.
 2. If the dispatch instruction is to less than 50% of its bid, IRMLP will accept the dispatch instructions and will dispatch to zero consumption.
- If IRMLP is at zero load and is dispatched to full consumption and cannot comply within the five-minute interval, it will respond that it cannot comply. The facility will remain at zero consumption until the next dispatch interval and then the next dispatch instruction can be considered.

Monitoring Information is required as a result of granting this exemption:

In order for IRMLP to be incorporated as a dispatchable load, several factors contributing to the facility's qualifications as a dispatchable load will be reviewed semi-annually. These will include:

- Typical load factor
- Frequency and necessity of Control Room notifications required.

PART 4 – TERMS AND CONDITIONS

Effective Date of Exemption (or event causing exemption to become effective)	Date of Panel Approval
Date of Expiration of Exemption <ul style="list-style-type: none"> • If greater than 5 years, the Panel must be satisfied that the circumstances justify a later date • Circumstances which will cause the exemption to immediately expire 	Effective as long as IRMLP seeks to be dispatchable, or until the IMO-administered markets change to accommodate the characteristics of batch load operation.
Market Rule (s) or related Market Manual(s) from which the Exemption is granted	Chapter 7, Subsections 7.5.1 and 7.5.2
Restrictions on the manner of operation and/or additional obligations to be met during the term of the Exemption, if any	<ul style="list-style-type: none"> • IRMLP will make its energy bids based on the average consumption of the process while running (average of the non-zero time periods). • IRMLP will make its offers for Operating Reserve based on average consumption per dispatch hour (including the entire hour whether running or not). • If IRMLP is at zero load when dispatched to zero, in the energy market, it will reject the dispatch instruction and will remain at zero until dispatched above zero. • If IRMLP is either at full or zero consumption and is dispatched to a level other than full or zero consumption, in the energy market there are two possibilities: <ol style="list-style-type: none"> 3. If the dispatch instruction is to 50% of its bid or more, IRMLP will reject the dispatch instructions and will dispatch to full consumption. 4. If the dispatch instruction is to less than 50% of its bid, IRMLP will accept the dispatch instructions and will dispatch to zero consumption. • If IRMLP is at zero load and is dispatched to full consumption in the energy market and cannot comply within the five-minute interval because of operating characteristics, it will respond that it cannot comply. The facility will remain at zero consumption until the next dispatch interval and then the next dispatch instruction can be considered.

PART 4 – TERMS AND CONDITIONS

Monitoring Information Required Information required to be provided by the Exemption Applicant for monitoring by the IMO	Factors contributing to this batch type load facility's qualifications as a dispatchable load will be reviewed semi-annually. These will include: <ul style="list-style-type: none"> • Typical load factor • Frequency and necessity of Control Room notifications required
Payment of Costs <ul style="list-style-type: none"> • Processing Costs (when introduced) • Incremental Exemption Costs • Settlement amounts to be withheld or repaid 	None Non-quantifiable workload increases for control room staff. Through monitoring of the proposed mode of operation with respect to notification, incremental cost to the IMO may be established. The IMO reserves the right to seek recovery of costs if experience proves they are significant.
Reconsideration/ Removal <ul style="list-style-type: none"> • Date on which the Exemption will be reconsidered (<i>if applicable</i>) • Circumstances under which the Exemption will be reconsidered (<i>if applicable</i>) other than unforeseen future change in circumstances 	Reconsideration may occur if monitoring indicates load is no longer qualified to be dispatchable, by having a ratio of % time the load is "on" in a typical dispatch hour of less than 75%, or if changes to the proposed mode of operation with respect to notification of IMO staff are deemed necessary. The former are conditions of eligibility as defined in Appendix A.
Transferability <ul style="list-style-type: none"> • List the terms and conditions that need to be met to allow for a transfer of this exemption to be approved by IMO staff 	Approval to transfer this exemption may occur once the following criteria have been met: <ol style="list-style-type: none"> 1. the transfer meets applicable terms and conditions set forth in the <i>exemption</i> itself and whether the transfer would affect the ability of the proposed transferee to comply with all of the terms and conditions of the <i>exemption</i>; 2. the proposed transferee is a <i>market participant</i> or undertakes in writing to the <i>IMO</i> to apply for authorization as a <i>market participant</i>.
Other:	Not Applicable

Appendix A

Discussion of Batch Type Dispatchable Load¹

Prepared by Rhonda Wright
May 17, 2001

Introduction

There has been substantial interest among wholesale loads, in participating in the IMO-administered markets as dispatchable and as OR providers. The purpose of this paper is to explore a means by which cyclic or batch type of dispatchable loads might be accommodated in the IMO-administered market and might qualify to provide operating reserve.

The Issue of Batch vs. Continuous Process

Many of the loads being put forward for participation as dispatchable are generally of a continuous process type, and some have the flexibility of being "compartmentalized" - parallel process lines which could make up three price laminations in a bid or OR offer. The load would be forecast on production estimates and a bid over an hour formulated, with reliance on "compliance deadband" for production variations.

However, many industrial processes are batch type processes. There are cyclical periods during the bidding hour at which they will be non-compliant by virtue of being at 0 MW for re-fueling or unloading.

Historically, both batch and continuous processes were allowed to contribute to OR via DDS rate options. Ontario Hydro accounted for the diversity of these loads when counting them in OR by the use of a factor, typically 60%. With the new market, the IMO is counting on bids from individual facilities, and may not factor in the diversity of a group.

In the decision on transitional rates for industrial customers, DDS customers were specifically excluded since they were given five years notice of the termination of DDS rates. DDS rate options expired as of Jan 1, 2001.

A quick review of former DDS customers indicates that there were approximately 160 MW of the 538 MW (Dec 2000 report) were batch type load.

Should these cyclical loads register as dispatchable, there is no rule which would allow the IMO to refuse registration, even though we would be fairly certain they would be non-compliant for at least a portion of every hour, and would quickly be deemed non-conforming.

It is desirable to allow these loads to participate in the OR market to benefit to competition. The following proposes a means by which the IMO might accommodate such loads within the existing tools and rules.

Principles

In developing the proposed treatment, a number of key principles were adhered to. These are:

1. The incorporation of these loads shall not be materially impactful on the reliability of the IMO-controlled grid.
2. The incorporation of these loads should not unreasonably burden the IMO control room with additional workload.

¹ This Appendix was drafted as a discussion paper to facilitate how the IMO-administered markets may accommodate dispatchable loads as market participants.

Proposal

It is proposed that the IMO incorporate batch type processes as dispatchable loads through the waiver process. This would allow the IMO to impose facility specific conditions on bidding and compliance that would otherwise be difficult to accomplish strictly through market rules.

These waivers would require and/or include the following conditions:

1. The hourly production schedule of the process must be predictable 4 hours out of real time dispatch to mesh with IMO bid schedules. Some demonstration of this must be presented during facility registration. This submission should indicate the process the MP will use to predict load 4 hours out in order to formulate and energy bid and an OR offer.
2. The load factor of the facility must be 75% over a dispatch hour.
3. No one zero MW cycle must last longer than two consecutive dispatch intervals during a dispatch hour.
4. Bids for energy should reflect the average consumption when the load is running (i.e. neglect the effects of periods of zero consumption). This will reduce the amount of non-compliance alarms from the tools for energy dispatch, and reduce the number of dispatch instructions.
5. Offers for OR should reflect the average consumption over the hour, including the periods of zero consumption. This addresses the fairness issue of these loads being paid for OR which isn't always there.
6. Loads with their largest typical period of zero consumption greater than one dispatch interval would only be eligible for the 30 minute OR market. This maintains consistent treatment for formerly DDS customers.
7. Loads with regular periods of zero consumption less than one dispatch interval would be eligible for the 10-minute non-spinning OR market.
8. When a load covered by these waivers receives a dispatch instruction to go to zero MW and that load is already at zero, the MP agrees to respond that they cannot comply with their dispatch instruction, even though they are technically compliant. They would also agree to remain at this level until dispatched to another level (covered in the existing rules). The IMO would agree not to impose compliance penalties in this specific instance as long as the load facility is compliant with the conditions in the waiver and therefore, would be stricken as a non-compliant event.

This action would allow the control room to review and determine if any additional generation/load needs to be dispatched manually. This is unlikely to occur often, since loads are unlikely to be on the margin for energy or OR activation very often. The frequency of these loads being on the margin will depend on their energy bid relative to the energy offer prices of the generators also providing OR.. If it does become a frequent occurrence (for instance, if the load adopts an bidding strategy that leads to dispatch to zero more than once a day at a time the load is at zero MW), the IMO will reserve the right to terminate the waiver based on the fact it has violated Principle #2. This is a parallel with generators who may temporarily have difficulties complying with dispatch instructions during specific instances, such as bring a mill into service during loading of thermal unit.

9. If a dispatch instruction is received for a load to go to a MW level with more granularity than their process load allows, they should reply that they are unable to comply with their dispatch instruction. This is covered in the existing rules and does not need to be specifically addressed in the waiver process. However, load facilities may wish to discuss compliance related issues in this process.
10. If the load facility receives a dispatch instruction to go to their energy bid level (average consumption while running) and cannot comply by the end of the 5 minute dispatch interval, they should reply that they are unable to comply. This is covered in the existing rules and does not need to be specifically addressed in the waiver process. However, load facilities may wish to discuss compliance-related issues in this process.

11. When a load facility suffers a contingency that cause them to deviate from their dispatch instruction in a manner not covered by the waiver application (i.e. they will be shut down for longer than the number of intervals set out in the waiver), they must notify the IMO and use IOMS to take a forced outage, just like other dispatchable facilities. This interaction is detailed in the System Operations Manual.

Example

Figure 1 - Load data from a Batch Type Load

This graph presents sample data from a batch type process. The load profile is based on instantaneous RMS readings, very similar to the measurement technique used by IMO operational telemetry. The Network snapshot is taken approximately 7 minutes prior to the time the facility is expected to be at its target (T_{dispatch}).

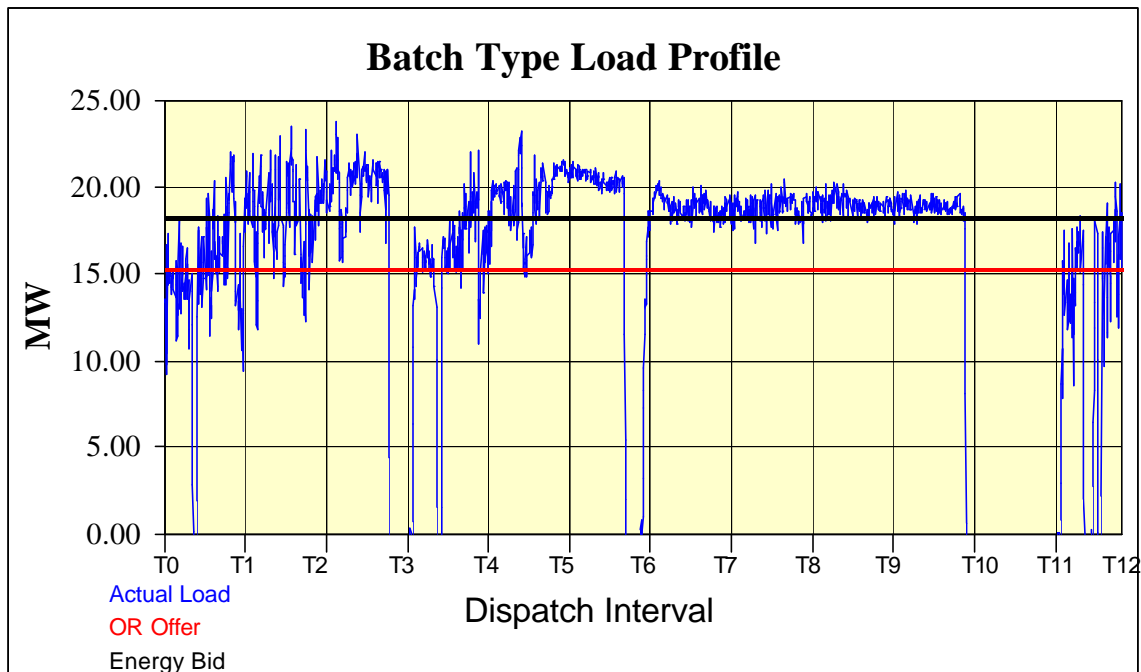


Table 1 - Discussion of Dispatch Intervals

Dispatch Instruction issued at:	State at time of Network Snapshot ($T_{\text{dispatch}} - 7$ minutes)	Dispatch Instruction issued for T_{dispatch}	Assuming 30 minute OR Offer is economic:	Comments
T0	N/A	18 MW at T1	Offer for 15 MW is valid	Compliant at T1 within +/- 10 MW (no need to change bid under Rules)
T1	18 MW	18 MW at T2(may be re-issued due to fluctuations around the energy bid level)	Offer for 15 MW is not valid for parts of interval T2 to T3 (approx 2 minutes downtime)	Compliant at T2 within +/- 10 MW (no need to change bid under Rules)
T2	20 MW	18 MW at T3	Offer for 15 MW is not valid for parts of interval T3 to T4 (approx 1 minute downtime)	Load is not compliant at T3 (0 MW) but waiver would deem them compliant as long as load factor and longest downtime is less than two intervals.
T3	19 MW	18 MW at T4	Offer for 15 MW is valid	Load will be compliant at T4 within +/- 10 MW (no need to change bid under Rules)
T4	18 MW	18 MW at T5	Offer for 15 MW is valid	Load will be compliant at T5 within +/- 10 MW (no need to change bid under Rules)
T5	18 MW	18 MW at T6	Offer for 15 MW is valid	Load will be compliant at T6 within +/- 10 MW (no need to change bid under Rules)
T6	0 MW	18 MW at T7	Offer would not be scheduled since snapshot showed load was down	Load will be compliant at T7 within +/- 10 MW (no need to change bid under Rules)
T7	18 MW	18 MW at T8	Offer for 15 MW is valid	Load will be compliant at T8 within +/- 10 MW (no need to change bid under Rules)
T8	18 MW	18 MW at T9	Offer for 15 MW is valid	Load will be compliant at T9 within +/- 10 MW (no need to change bid under Rules)
T9	18 MW	18 MW at T10	Offer is not valid for entire interval, but may be scheduled based on snapshot data	Load is not compliant at T10 (0 MW) but waiver would deem them compliant as long as load factor and longest downtime is less than two intervals.
T10	18 MW	18 MW at T11	Offer is not valid for parts of interval T10 to T11 (approx 2 minutes downtime)	Load is not compliant at T11 (0 MW) but waiver would deem them compliant as long as load factor and longest downtime is less than two intervals.
T11	0 MW	18 MW at T12	N/A	Load will be compliant at T12 within +/- 10 MW (no need to change bid under Rules)

From this chart, it can be seen that the arc furnace facility would not be scheduled, and thus would not receive OR payments for one interval at T7. In addition, there would be one interval during which they would be paid for OR but would be unable to be activated mid-interval.