



Market Rule Interpretation Bulletin

Interpretation Bulletins are produced by the *IESO* to give notice to *market participants* of clarifications regarding the interpretation, application or implementation of a *market rule*.

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This version of the interpretation bulletin published on June 29, 2009 supersedes IMO_MKRI_0001 v5.0 and all other previously published bulletins on this subject.

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PART 1 – MARKET RULE INFORMATION

Title:

Compliance with *Dispatch Instructions Issued to Dispatchable Facilities*

Applicability: Dispatchable Load Facilities and Dispatchable Generation Facilities

List of Relevant *Market Rules*:

Chapter: 7	Appendix:	Sections: 7.5
Chapter: 3	Appendix:	Sections: 6.6

PART 2 – OTHER RELEVANT MARKET DOCUMENTS

Provide a list of other relevant market documents affected (e.g. procedures, bulletins, etc.):

1. *Market Manual* 4: Market Operations: Part 4.3: Real-Time Scheduling of the *Physical Markets* – section 1.8.5 and 1.12

PART 3 – BACKGROUND INFORMATION

Provide the history of this request and purpose of this interpretation bulletin:

Market participants are obligated under the *market rules* to comply with *IESO dispatch instructions* and to notify the IESO when its facility operation will materially depart from its dispatch instructions. *Market participants* have requested that the IESO provide guidance and clarification, beyond what is currently in the *market rules* and market procedures, on the following issues:

- What criteria the IESO will apply in determining *market participant* compliance with *dispatch instructions* and notification of departures from *dispatch instructions* by a *dispatchable facility*?
- What criteria the IESO will apply in determining *market participant* compliance with *dispatch instructions* for *operating reserve* activation?
- Under what circumstances will non-compliance with *dispatch instructions* by a *dispatchable facility* not be considered a breach of the *market rules*?
- What criteria the IESO will apply in determining *market participant* compliance with *dispatch instructions* for the periods after synchronizing and before desynchronizing a *generation facility*?

Market participant compliance with *IESO dispatch instructions* is necessary to maintain the reliable operation of the *IESO-controlled grid* and the effective and efficient operation of the *IESO-administered markets*. Non-compliance with *dispatch instructions* may result in increased market costs and may jeopardize reliable operation of the *IESO-controlled grid*. Increased costs to the market could result if additional resources (e.g. *automatic generation control*, *operating reserve*, *CMSC*) are needed to be *dispatched* to compensate for the non-compliant *facility*. Adverse *reliability* conditions could arise due to the impact of the non-compliance on the balancing of supply and *demand*. Non-compliance may also lead to market inefficiencies such as excessive switching, uncoordinated operation, *outage* deferrals and increased *security* or *operating reserve* margins. Because of the importance of this issue to the operation of the *IESO-controlled grid* and the *IESO-administered markets*, the IESO monitors compliance with *dispatch instructions* and may impose sanctions, including financial penalties if a breach is found. In addition, as a matter of practice, breaches are reported publicly by the IESO.

The IESO recognizes that precise compliance with *dispatch instructions* may not be possible in all situations and permit the IESO to issue guidelines as to what constitutes a material difference. For this purpose, the IESO has established a range around a *dispatch instruction* called a compliance dead band. Operation of a *market participant's facility* outside of the compliance dead band constitutes a material difference. If a facility operates within the compliance dead band, the *market participant* would be deemed to be compliant. In addition, the *market rules* recognize that there may be legitimate reasons for a *market participant* not to comply with a *dispatch instruction*. In this situation, the non-compliance would not be deemed to be in breach of the *market rules*.

This interpretation bulletin clarifies how the IESO assesses compliance with *dispatch instructions* for synchronization and de-synchronization of a *generation facility*, and for *operating reserve activation* energy dispatches. In addition, this bulletin specifies the legitimate reasons for not complying with *dispatch instructions* and clarifies when *market participants* must notify the IESO of material departures from *dispatch instructions*. This interpretation bulletin may be reviewed from time to time in order to consider whether any further clarification is necessary. In that regard, the IESO will take into account actual market operational experience by the IESO and *market participants*.

PART 3 – BACKGROUND INFORMATION

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What are the *Market Participant* and *IESO* Obligations Regarding Compliance with *Dispatch Instructions*?

Section 7.5 of Chapter 7 of the *Market Rules* – Compliance with *Dispatch Instructions*

Market participants are obliged to follow *dispatch instructions*, as detailed in Chapter 7, Section 7.5.1:

“Each *registered market participant* shall ensure that each of its *registered facilities* complies with *dispatch instructions* issued to it under these *market rules*. Without limiting the generality of section 6.2 of Chapter 3, non-compliance with *dispatch instructions* other than for the reasons referred to in section 7.5.3 shall be a breach of the *market rules* and may be sanctioned in accordance with section 6.2 of Chapter 3 and with this section 7.5.”

If a *market participant* expects that its *facility* will not be able to meet its *dispatch instruction* for any reason including safety, legal and equipment damage reasons, the *market participant* is required to notify the *IESO*, as detailed in section 7.5.2 of Chapter 7:

“A *registered market participant* that expects its *registered facility* to operate in a manner that, for any reason, differs materially from the *dispatch instructions* issued to it in accordance with these *market rules* shall so notify the *IESO* as soon as possible.”

The *market rules* do recognize and permit non-compliance with *dispatch instructions* for safety, legal and equipment damage reasons, as detailed in section 7.5.3 of Chapter 7:

“Compliance with a *dispatch instruction* ... is not required if such compliance would endanger the safety of any person, damage equipment, or violate any *applicable law*.”

What do the *Market Rules* Say about Sanctions for Non-compliance with *Dispatch Instructions*?

Section 7.5 of Chapter 7 of the *Market Rules* – Compliance with *Dispatch Instructions*

The *IESO* is permitted, under sections 7.5.4 through 7.5.7 of Chapter 7, to take action against a *market participant* for non-compliance with *dispatch instructions* including considering the applicable *facility* as *non-dispatchable* and referring the situation to the *market surveillance panel*. The *IESO* is required to impose some of these sanctions, but has discretion in regards to imposing others.

Section 6.6 of Chapter 3 of the *Market Rules* – Non-Compliance Letters and Financial Penalties

Sanctions imposed for non-compliance incidents are based on various criteria. These criteria include, but are not limited to the following: the circumstances under which the deviation from *dispatch instructions* occurred, frequency of occurrence, the severity and reason for the deviation, the number of intervals the deviation lasted and gain to the *market participant* due to the deviation. Refer to section 6.6.7 of Chapter 3 for a more complete list of criteria and considerations. Based on a consideration of these criteria, the *IESO* may impose graduated penalties that range from a letter of non-compliance to significant monetary fines. As well, the name of any *market participant* found to be in breach of the *market rules* may be publicly reported on the *IESO* web site along with a brief description of the

PART 3 – BACKGROUND INFORMATION

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breach.

PART 4 – INTERPRETATION AND APPLICATION**Interpretation – Criteria for Determining Compliance**

A *market participant* will be compliant with a *dispatch instruction* if its *registered facilities* operate within the applicable deadband for those *facilities*. The *IESO* will deem operation outside the applicable deadband to be materially different from the *dispatch instruction*. The *IESO* will use the operational telemetry quantities provided by *market participants* under Chapter 4, Appendix 4.15 to assess a *facility's* operation.

Operation of a *facility* outside the applicable deadband is a breach of the *market rules*, unless compliance with the dispatch instruction would endanger the safety of any person, damage equipment, or violate any *applicable law*. A *market participant* that expects its *facilities* to operate outside the applicable deadband, for any reason, must notify the *IESO*. Failure to notify the *IESO* of any anticipated or actual operation outside the applicable deadband is a breach of the *market rules*.

1. Energy Dispatch Compliance Deadbands

The compliance deadband is the range in which a *facility* can operate in order to be deemed compliant with a *dispatch instruction*. The applicable deadband for a *facility* depends on the type of *facility* and whether the *facility* is part of a Compliance Aggregate. The deadbands for each of these circumstances is described below.

1.1 Deadband for Individual Resources

The *IESO* has determined that the compliance deadband for individual resources that are not operating in a Compliance Aggregate shall be as follows:

- For *dispatchable facilities* with nominal MW values greater than 30MW, the individual deadband is the greater of ± 15 MW or $\pm 2\%$ of the *facility's dispatch instruction*.
- For *dispatchable facilities* with nominal MW values less than 30MW, the individual deadband is ± 10 MW.

When the *IESO* considers it necessary to maintain reliability of the *IESO-controlled grid*, it will instruct *market participants* to temporarily operate their *facilities* without a deadband. When *market participants* receive such an instruction, they must operate those *facilities* as precisely as possible.

PART 4 –INTERPRETATION AND APPLICATION

The *IESO* may also instruct *market participants* to temporarily operate their Compliance Aggregate *facilities* as individual resources. When *market participants* receive such an instruction, the individual deadbands in this section will apply to those *facilities*.

Physical Limitations

The *IESO* recognizes that certain fossil *facilities* are “slow starters” or “slow movers”. If the *IESO* determines that a facility is a “slow starter” or “slow mover”, the *IESO* will assess material compliance for that *facility* after five consecutive 5-minute *dispatch intervals* of single directional *dispatch instructions*, rather than one 5-minute *dispatch interval*, as will be the case for other types of *facilities*. The *IESO* expects the trend over the five intervals to show the facility is moving in the direction of the *dispatch instruction*. This allowance does not apply to a *dispatch instruction* for energy flagged by the *IESO* for activation of *operating reserve* because of the different requirements for this product.

1.2 Deadband for Beck Pump Generation Station

The *IESO* recognizes the unique operation of Ontario Power Generation’s Beck pump generation station (BPGS) to maintain crossover elevation in accordance with the Niagara Diversion Treaty of 1950 when contracted regulation service is being provided by the Beck Generation Station 2 (Beck GS 2). Therefore, when Beck GS 2 is providing contracted regulation service and the BPGS units are generating or pumping for the purpose of maintaining crossover elevation, the *IESO* has determined the following compliance deadbands for BECK2PGS-LT.APG456 and BECK2PGS-LT.APG123 resources:

In generate mode:

- The deadband is ± 30 MW around the *dispatch instruction* for either resource, when providing up to ± 100 MW of regulation service at Beck GS 2 or,
- The deadband is ± 60 MW around the *dispatch instruction* for either resource, when providing greater than ± 100 MW of regulation service at Beck GS 2 and up to ± 200 MW.

In pump mode:

- The deadband is ± 40 MW around the *dispatch instruction* for either resource, when providing up to ± 100 MW of regulation service at Beck GS 2 or,
- The deadband is ± 80 MW around the *dispatch instruction* for either resource, when providing greater than ± 100 MW of regulation service at Beck GS 2 and up to ± 200 MW.

1.3 Deadbands under Compliance Aggregation Program

The Compliance Aggregation Program allows *market participants* to aggregate *generation facilities*, which do not qualify for model aggregation, for compliance purposes in order to share individual *dispatch instructions* among authorized *facilities*. (See Market Manual 4: Market Operations Part 4.3 Real-Time Scheduling of the Physical Markets, Section 1.12). *Facilities* that qualify for and are registered in the program are called Compliance Aggregates.

When the *IESO* considers it necessary to maintain reliability of the *IESO-controlled grid*, it will instruct *market participants* to temporarily suspend the use of compliance aggregated deadbands and operate their Compliance Aggregate *facilities* as individual resources. When *market participants* receive such an instruction, they must operate those *facilities* within the applicable deadbands specified in Section 1.1: Deadbands for Individual Resources of this interpretation bulletin.

Quick Start Facilities

Quick start *facilities* operating in a Compliance Aggregate must operate within an aggregated deadband. The aggregated deadband is the greater of one half of the largest single generation unit in the Compliance Aggregate or 15 MW. The aggregated deadband cannot, however, exceed the sum of the individual resource deadbands for all facilities in the Compliance Aggregate specified in Section 1.1: Deadbands for Individual Resources of this interpretation bulletin.

Non-Quick Start Facilities

Non-quick start *facilities* can only operate as Compliance Aggregates when all *facilities* in the group are operating above their minimum loading points. If any *facility* in the Compliance Aggregate is operating below its minimum loading point, all the *facilities* must operate within the applicable deadbands specified in Section 1.1: Deadbands for Individual Resources of this interpretation bulletin.

Compliance aggregation deadbands may not be used in lieu of synchronizing a *generation unit* that has been dispatched to synchronize or synchronizing a *generation unit* in place of another that has been dispatched to synchronize.

Non-quick start *facilities* operating in a Compliance Aggregate must operate within the aggregated deadband and, under some circumstances, within an individual deadband for each *facility*.

The total output of all units in a Compliance Aggregate must be within the following aggregated deadbands:

- For Compliance Aggregates consisting of coal-fired facilities with pulverisers, the aggregated deadband is one half of the nominal MW value of the largest single pulveriser mill in the Compliance Aggregate.
- For Compliance Aggregates consisting of non-coal fired facilities, the aggregated deadband is the greater of one half of the largest single generation unit in the compliance aggregate or 15 MW. The aggregated deadband cannot, however, exceed the sum of the individual resource deadbands for all facilities in the Compliance

PART 4 –INTERPRETATION AND APPLICATION

Aggregate specified in Section 1.1: Deadbands for Individual Resources of this interpretation bulletin.

In addition to operating within the aggregated deadband, each non-quick start *facility* in the Compliance Aggregate must also operate within an individual deadband of ± 50 MW of its individual *dispatch instruction* unless:

1. Offered ramp up and ramp down rates are the same or within 1 MW/min for the same MW range for each generation unit for all resources within the Compliance Aggregate and,
2. All offered ramp rates above minimum loading points do not vary by more than 1 MW/min for each generation unit for all resources within the Compliance Aggregate.

1.4 Deadband Summary

Facility Type	Deadband	Exceptions
Individual Resources above 30MW	Greater of ± 15 MW or 2% of dispatch instruction	Special rules for Beck Pump Generation.
Individual Resources below 30 MW	± 10 MW	Slow-start facilities will be assessed after five consecutive 5-minute dispatch intervals. IESO can direct facilities to temporarily operate without a deadband.
Compliance Aggregate with Quick Start Facilities	Greater of ± 15 MW or half the nominal value of the single largest generation unit. The total deadband cannot exceed the sum of the deadbands for the individual resources.	IESO can direct Compliance Aggregates to temporarily operate as individual resources.
Compliance Aggregate with Non-Quick Start, Non-Coal Facilities	Greater of ± 15 MW or half the nominal value of the single largest generation unit. The total deadband cannot exceed the sum of the deadbands for the individual resources. AND Each individual resource must operate within ± 50 MW if the ramp rate requirements are not met.	Units must operate within individual deadbands until all units in the Compliance Aggregate are above their minimum loading points. Market participants cannot use the deadbands in lieu of synchronizing or de-synchronizing a unit. IESO can direct Compliance Aggregates to temporarily operate as individual resources.
Compliance Aggregate with Non-Quick Start, Coal Facilities	Half the nominal value of the largest single pulveriser mill within the Compliance Aggregate. AND Each individual resource must operate within ± 50 MW if the ramp rate requirements are not met.	

2. Energy Dispatch Compliance for Operating Reserve Activation

2.1 Activation of Operating Reserve for Individual Resources

Dispatch instructions for energy that are flagged by the IESO as activation of *operating reserve* are accompanied by an “ORA” flag. Failure to comply with these *dispatch instructions* occurs when a dispatchable *generation facility* fails to be at or above the *dispatch instruction* within the timeframe specified by the *operating reserve market* for which the dispatchable *generation facility* was scheduled. For example, if a dispatchable *generation facility* was scheduled and dispatched for 10 minute synchronized or non synchronized *operating reserve*, the *facility* would have to be at or above the *dispatch instruction* 10 minutes after receipt of the *dispatch instruction* flagged for activation of *operating reserve*.

2.2 Scheduling of Operating Reserve for Compliance Aggregates

Facilities registered under compliance aggregation are also able to aggregate operating reserve. Such *facilities* must ensure that enough capacity is available across the aggregate to meet the scheduled *operating reserve* for the entire aggregate. This includes having enough resources with closed breakers to meet scheduled synchronized reserve.

2.3 Activation of Operating Reserve for Compliance Aggregates

A failure to comply with these *dispatch instructions* for operating reserve occurs when a dispatchable aggregated *generation facility* operating as a compliance aggregate fails to be at or above the sum of all *dispatch instructions*, **whether ORA flagged or not**, for all facilities in the aggregate within the timeframe specified by the *operating reserve market* for which the dispatchable aggregated *generation facility* was scheduled. For example, if a dispatchable aggregated *generation facility* was scheduled and dispatched for 10 minute synchronized or non synchronized *operating reserve*, the sum of all resources in the *facility* would have to be at or above the *dispatch instructions* 10 minutes after receipt of the energy dispatch flagged for activation of *operating reserve*.

3. Non-Compliance and Notification

3.1 Safety, Legal and Equipment Damage

As indicated in the *market rules*, Chapter 7, section 7.5.3, if the safety of a person or equipment, or violation of an applicable law is the reason for not following *dispatch instructions*, the failure to follow *dispatch instructions* will not constitute a breach of the *market rules*. Applicable law also includes government regulations such as environmental restrictions. However, the *market participant* must inform the IESO, as soon as possible, that it does not intend to follow the *dispatch instruction* for one of these reasons. Failure to inform the IESO as soon as possible will itself constitute a breach of the *market rules*.

3.2 Synchronizing and De-synchronizing Conditions

Generation facilities ramping up to minimum load after synchronizing and *generation facilities* ramping down from minimum load prior to de-synchronizing may receive energy *dispatch instructions*. These *facilities* are obligated to comply with those instructions, subject to the safety, legal and equipment damage considerations noted above. The IESO will assess compliance with *energy dispatch instructions* under these conditions using the deadband and physical limitation criteria noted above.

The forgoing interpretation is binding on the *IESO* subject to the provisions of Chapter 1, section 12.1.5 of the *market rules*.