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Market Manual 4: Market Operations

Part 4.3: Operation of the Real-Time Market

Issue 5.0
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~~The proposed change to this market manual will be implemented independently of the point-in-time rules.~~

This procedure provides guidance to *market participants* on the *real-time scheduling* process in the real-time *energy* and *operating reserve* markets.

Document Change History

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Related Documents

Document ID	Document Title
MAN-109	Market Manual 4.1: Submitting Dispatch Data in the Physical Markets
MAN-110	Market Manual 4.2: Operation of the Day-Ahead Market

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Reference	Description of Change
Section 5.2	Update to the standby notice price threshold.

5 Issuing Dispatch Instructions and Operational Notices

5.1 Dispatchable Generation Resources, Dispatchable Loads or Dispatchable Storage Resources

Target energy output (MR Ch.7 s.7.3.1.1, s.7.5.1.1) – The *dispatch instruction* indicates the target *energy* output to be achieved (in MW) by the *resource* at the end of the *dispatch interval* consistent with the ramp rate as specified below:

- for a *dispatchable load* ~~or *electricity storage resource* that proposes to withdraw,~~ the ramp rate provided by the *registered market participant* as *dispatch data*; and
- for a *generation resource* ~~or *electricity storage resource* that proposes to inject,~~ the most limiting of:
  - the offered ramp rate applicable to the *energy* output specified in the *resource's* most recent *dispatch instruction*; and
  - the effective maximum ramp rate, as set out below.
- For an *electricity storage resource*, the aggregated ramp up and ramp down rates for all *resources* that comprise a *facility* must not exceed 6.7 MWs/4 seconds~~.~~ For clarity, ~~:~~

  Electricity storage resources may exceed the ramp rate contained in their *offer* provided that the aggregated ramp rate for all *resources* that are associated with that *facility* does not exceed the facility ramp constraint of 6.7 MWs per 4 seconds.

Target energy output for pseudo-units (MR Ch.7 s.7.3.1.1) – For *pseudo units*, the target *energy* output is derived from the *pseudo-unit's* ramp rate and *energy* output of the associated combustion turbine and steam turbine *generation units*.

Effective maximum ramp rate – The effective maximum ramp rate consists of the lesser of:

- the *generation resource's* registered maximum ramp rate; and
- the largest ramp rate contained in the *offer* for the *generation resource*, multiplied by the ramp rate multiplier established by the *IESO*. The ramp rate multiplier is currently set to a value of 1.2.

Materiality threshold (MR Ch.7 s.7.1.1A) – For the purpose of **MR Ch.7 s.7.1.1A**, the *IESO* will only issue *dispatch instructions* for a given *dispatch interval* when the change in the quantity to be scheduled is greater than or equal to the lesser of (a) 2% of the maximum *offer/bid* capability of the *resource,* and (b) 10 MW. However, the *IESO* will also issue *dispatch instructions* in each of the following circumstances, irrespective of whether *the dispatch instruction change* falls within the above materiality thresholds:

- to ensure the *resources* is *dispatched* to its high operating limit or low operating limit;
- for provision of *energy* reduction change when the previous *dispatch instructions* are higher than the *resource's* current maximum *offer*; or
- for *dispatch intervals* 1 and 7 of each *dispatch hour*.

Variable generation resources (MR Ch.7 s.7.1.2A.1) – *Dispatch instructions* for *variable generation resources* are accompanied with an "obligation indicator" which indicates either **MANDATORY** or **RELEASE.** A **RELEASE** flag indicates that the *dispatch instruction* is accompanied with a *release notification.* A *release notification* issued under **MR Ch.7 s.7.1.2A.1** allows the *energy* supplied from the *resource* to be produced by ambient conditions rather than a specified *dispatch* quantity. The *IESO* issues *dispatch instructions* for *energy* to each *variable generation resource* only for *dispatch intervals* with mandatory obligation indicators in effect or for the first *dispatch interval* when the mandatory obligation indicator for *variable generator* no longer applies.

Contingency events impacting electronic dispatch – Where a *contingency event* is occurring or has occurred, the *IESO* may temporarily cease issuing *dispatch instructions.* If the *IESO* does not issue *dispatch instructions* to a *resource*, the *resource* must continue to follow its most recent *dispatch instructions* in accordance with **MR Ch.7 s.7.5.1**. If the *IESO* issues *dispatch instructions* by alternative means other than through *dispatch workstations*, including by telephone, *registered market participants* are expected to communicate to the *IESO* using those alternative means, including to accept or reject *dispatch instructions*.

Table 5-1: Procedure for Dispatching Dispatchable Resources

Step	Completed by…	Action
1	*IESO*	The *IESO* schedules *resources* to supply *energy* and *operating reserve* to meet *electricity system* requirements.
2	*IESO*	The *IESO* issues *dispatch instructions* in accordance with **MR Ch.7 s.7.1.1A** or, for *variable generation resources*, a release notification in accordance with **MR Ch.7 s.7.1.2A1**.