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1 Purpose

This information document supports Section 202.4 of the ISO rules, *Long Lead Time Energy*. The purpose of this information document is to provide examples of the practical application of that section of the ISO rules. This information document is likely of most interest to pool participants who own or operate long lead time assets.

2 Background

There are essentially two (2) types of generating source assets that are categorized as long lead time assets. As set out in the AESO's *Consolidated Authoritative Document Glossary*:

“**long lead time asset**” means a generating **source asset** that:

- (i) requires more than one (1) hour to synchronize to the system under normal operating conditions; or
- (ii) is synchronized but has varying start-up times for distinct portions of its MW and which requires more than one (1) hour to deliver such additional portions of its MW; and

which is not delivering all of its energy for reasons other than an **outage**.

3 Long Lead Time Assets Which Take More Than One (1) Hour to Synchronize

This section 3 provides additional information in relation to long lead time assets whose entire maximum capability takes greater than one (1) hour to synchronize.

3.1 Start-up Time

Long lead time assets that fit the criteria in subsection (i) of the definition are required to enter an initial start-up time operating constraint in the Energy Trading System. In the case of long lead time assets whose entire maximum capability takes greater than one (1) hour to synchronize to the grid, this initial start-up time operating constraint in the Energy Trading System is equal to or greater than 1. The AESO expects that this operating constraint accurately portrays the length of time required for the MW to be delivered to the grid. Since the AESO uses initial start-up operating constraint to determine eligible start times, pool participants should ensure that this operating constraint is accurate.

3.2 Start Time

As set out in subsection 2(1) of Section 202.4, long-lead time assets whose entire maximum capability takes greater than one (1) hour to synchronize must enter a start time in the Automatic Dispatch and Messaging System in order to receive a dispatch. This requirement applies only when those pool participants wish to receive a dispatch and participate in the energy market. Long lead time assets do not need to have a start time entered at all times. However, they are still subject to Section 203.1 of the ISO rules, which states that pool participants must offer in the MW, meaning the MW that are currently being produced, from their generating pool assets in all hours.

4 Long Lead Time Assets with Varying Start-up Times for its MW

This section 4 provides additional information in relation to long lead time assets that are synchronized to the grid but are only providing a portion of its maximum capability within that hour, with the remaining

defined portion of its energy requiring a start time greater than one (1) hour.

4.1 Available Capability Restatements

Long lead time assets that fit the criteria in subsection (ii) of the above definition should reflect the availability of their additional energy through the use of available capability restatements. This might include multi-unit single generating pool assets or plants where MW would not be available from a second generating unit for at least one (1) hour after a cold start, because its operation is dependent on the operation of another generating unit, e.g., a combined cycle plant where the steam generating unit is dependent on the operation of a gas generating unit.

These long lead time assets should have a value of 0 or 1 (the value that is most appropriate) for their initial start-up time operating constraint in the Energy Trading System.

The following is an example of what a pool participant's submissions in the Energy Trading System would look like if they wish to receive a dispatch for their additional long lead time energy, as set out in subsection 3 of section 202.4.

Note: Generating pool assets that are synchronized to the grid and have varying start times for distinct portions of their MW but where start times are all less than one (1) hour do not qualify as long lead time assets. The example below does not apply to them. These assets are subject to ISO rules Section 203.1 subsection 5, in that their available capability must equal their maximum capability unless they have an acceptable operational reason.

Ex. A long lead time asset consists of two (2) generating units. One can be synchronized to the grid in thirty (30) minutes and is capable of generating one hundred (100) MW. The second generating unit can only be started after the first generating unit is synchronized and takes an additional two (2) hours to start, eventually generating fifty (50) MW.

When this long lead time asset is offline, AC=100. When the first generating unit is started up and providing MW, the pool participant may wish to receive a dispatch for the additional fifty (50) MW from the second generating unit. At least two (2) hours prior to the settlement interval in which they wish to provide the additional fifty (50) MW, the pool participant restates their available capability up to one hundred and fifty (150) MW starting in the settlement interval in which the pool participant wishes to receive a dispatch for the MW.

4.2 Offers

Although the situation described in 4.1 constitutes an acceptable operational reason long lead time assets are subject to subsection 3(4)(a) of Section 203.1 of the ISO rules which requires a pool participant to ensure that the total offered MW is equal to the maximum capability of the pool asset. This applies even when the pool asset is a long lead time asset with additional capacity not currently reflected in the available capability. In the example used above, the sum of all offers must be one hundred and fifty (150) MW, even if the second generating unit is offline and there is no intention of bringing it online. See ID# 2012-009R Restatements for an example of how these offers appear in the merit order when available capability does not equal maximum capability.

Revision History

Version	Effective Date	Description of Changes
1.0	2013-01-08	Initial Release