Information Document
Asset Substitution
ID #[xxxx-xx]

Information Documents are not authoritative. Information Documents are for information purposes only and are intended to provide guidance. In the event of any discrepancy between an Information Document and any Authoritative Document(s)[1] in effect, the Authoritative Document(s) governs.

1 Purpose

This Information Document relates to the following Authoritative Document:

- Section 206.9 of the ISO rules, *Asset Substitution* ("Section 206.9").

The purpose of this Information Document is to provide additional information in relation to Section 206.9. Specifically:

(a) the purpose for asset substitution and the timeline;

(b) eligibility to participate in asset substitution; and

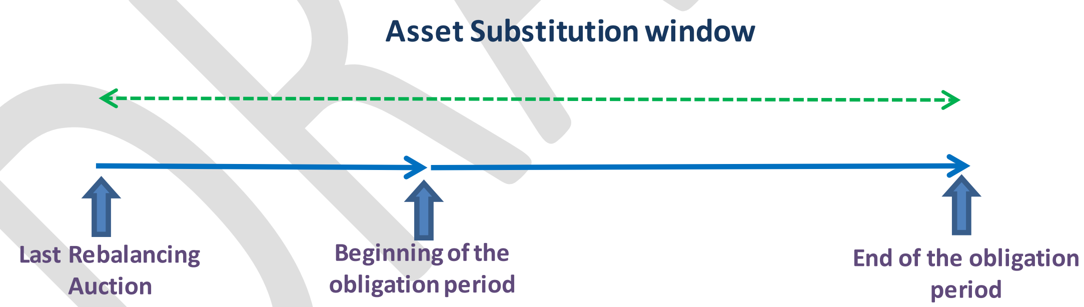
(c) the mechanics of asset substitution.

2 Asset substitution and timeline - general

Asset substitution is a risk mitigation mechanism to allow a capacity market participant to reduce the under-delivery adjustment risk in advance of a delivery assessment period. A capacity market participant may substitute some or the entirety of its capacity commitment in accordance with subsection 2(1) of Section 206.9.

The asset substitution window opens after the final rebalancing auction[2]. The duration of the substitution window is set out in subsection 2(2) of Section 206.9. Once a capacity market participant substitutes its capacity commitment, the AESO performs the delivery assessment for that capacity commitment volume on the assets that have taken on the substitution, in accordance with subsections 7(1) through 7(3) of Section 206.9.

Figure 1: Asset substitution window

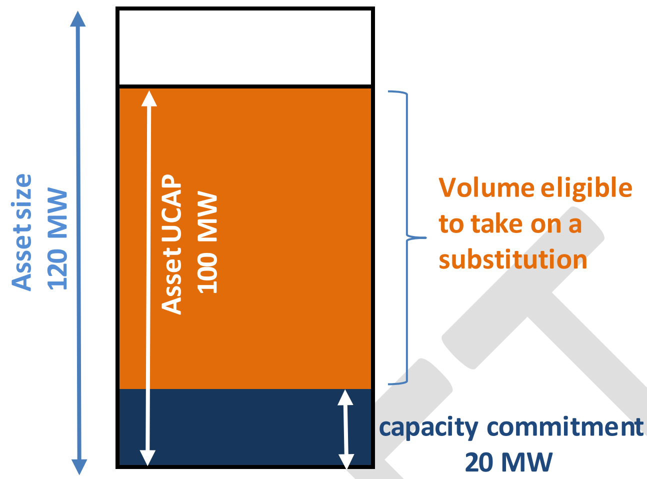


[1] "Authoritative Documents" is the general name given by the AESO to categories of documents made by the AESO under the authority of the *Electric Utilities Act* and associated regulations, and that contain binding legal requirements for either market participants or the AESO, or both. AESO Authoritative Documents include: the ISO rules, the Alberta reliability standards, and the ISO tariff.

[2] To provide liquidity for the 2 rebalancing auctions, the asset substitution window opens after the last rebalancing auction is finished.

3 Eligibility to participate in asset substitution

Figure 2: Volume eligibility for asset substitution

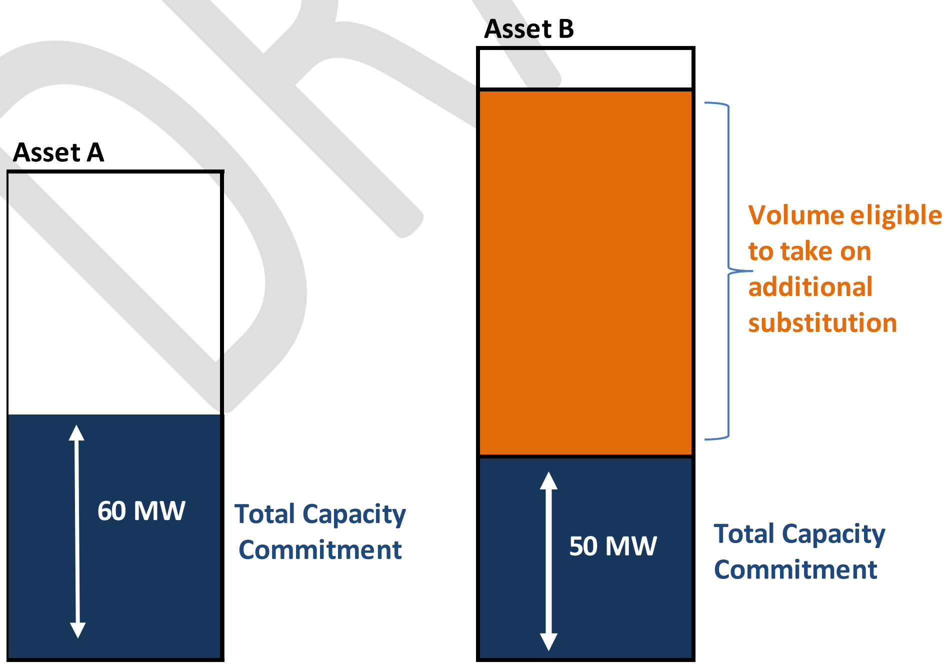


The capacity asset in Figure 2 can provide a maximum of 80 MW towards asset substitutions. An asset may only take on substitutions for eligible capacity volumes that the asset has not cleared in either the base or the rebalancing auctions for the capacity commitment period.

4 Mechanics of asset substitution

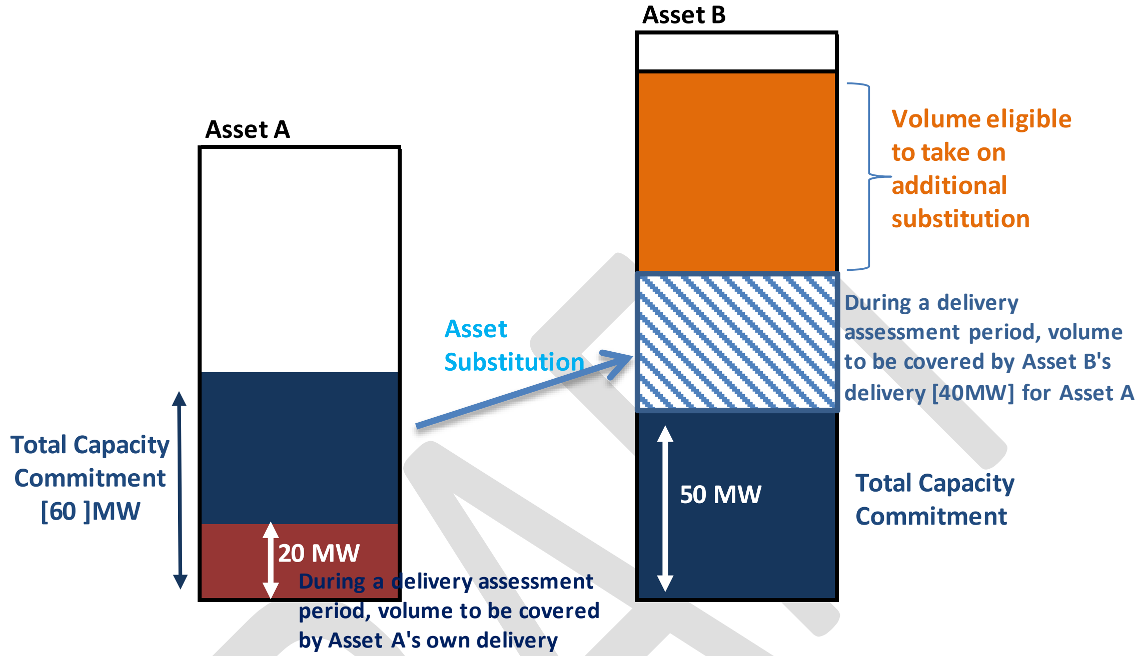
4.1 Pre- asset substitution and delivery assessment

Figure 3: Pre- asset substitution and delivery assessment



Asset A has a capacity commitment of 60 MW and Asset B has a capacity commitment of 50 MW.

Figure 4: post- asset substitution and delivery assessment



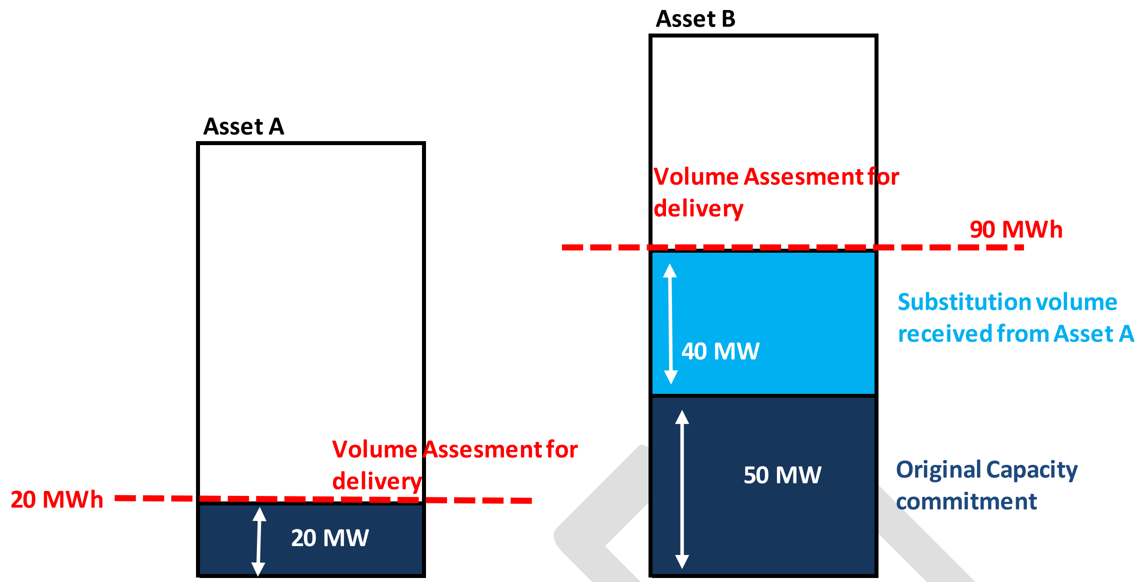
Post asset substitution, Asset A still has a capacity commitment of 60 MW of which 20 MW is covered by Asset A, and 40 MW is covered via substitution by Asset B.

Figure 4 contemplates that Asset A cannot meet the 60 MW capacity commitment, and can substitute 40 MW of its volume from Asset B to meet its capacity commitment of 60 MW.

4.2 Asset substitution settlement

Figure 5 below illustrates the volume assessment that the AESO measures for performance and settlement purposes. In a delivery assessment hour, Asset A needs to deliver 20 MWh in order to avoid under–delivery performance assessments, while Asset B needs to deliver 50 MWh to cover its own capacity commitment volume and 40 MWh to cover the capacity commitment volume that was substituted over from Asset A, being 90 MWh in total. If Asset B does not deliver the 40 MWh that it has substituted to Asset A, Asset A's performance and settlement are impacted as Asset A still has a capacity commitment to deliver 60 MWh. Figure 5 shows the capacity commitment volumes after the substitution is completed.

Figure 5: Post- asset substitution volume assessment for delivery during a delivery hour



4.3 Multi asset substitution

In Table 1 below, which is an example unrelated to Figure 3, 4 and 5 above, Asset A has a capacity commitment to deliver 20 MW, while Asset B has a capacity commitment to deliver 50 MW, and Asset C has a capacity commitment to deliver 20 MW.

Table 1: Substitution of 3 capacity assets

Asset name	Asset UCAP (MW)	Capacity commitment (MW)	Volume eligible for substitution (MW)	Volume being substituted to Asset A (MW)	Delivery period volume assessment post-substitution (MWh)
Asset A	100	20	80		70
Asset B	50	50		30	20
Asset C	20	20		20	0

Asset A can substitute up to 80 MW, as the total size of the asset is 100 MW and it already has a capacity commitment of 20 MW.

In Table 1, Asset A delivers 70 MWh in total where:

(a) 20 MWh is to meet its own capacity commitment;

(b) 30 MWh is substituted to Asset B; and

(c) 20 MWh is substituted to Asset C.

Post- asset substitution in a delivery assessment hour for a multi asset substitution:

(i) Asset A must deliver 20 MWh in order to avoid under- delivery adjustments for its capacity commitment;

(ii) Asset A must deliver 30 MWh to provide for the substituted capacity commitment to Asset B. If Asset A fails to deliver this volume, the AESO assesses Asset B an under-delivery adjustment; and

(iii) Asset A must deliver 20 MWh to provide for the substituted capacity commitment to Asset C. If Asset A fails to deliver this volume, the AESO assesses Asset C an under-delivery adjustment.

Revision History

Posting Date	Description of Changes
	Initial release