

# Adjustment to Load on the Margin Stakeholder Update

**Date:** June 30, 2021

**Classification:** Public

## Table of Contents

### Contents

<b>Background</b> .....	1
<b>Principles and Objectives</b> .....	1
<b>Key Terminology</b> .....	2
<b>Key Concepts</b> .....	2
What is ALM.....	2
Eligibility .....	2
Adjustment Price Level .....	3
Adjustment Determination.....	3
Allocation of Cost .....	3
<b>Next Steps</b> .....	4

## Background

During the sub-hourly settlement consultation in 2020, when the decision was made to not progress sub-hourly settlement, market participants identified that adjustment for load on the margin (“ALM”) may provide value for loads and should be explored at a later time. ALM is a mechanism that adjusts the charges to consumers to align with their consumption and bids, where the hourly pool price fails to capture bids intra-hour. The AESO also supported exploring implementation of ALM; ALM would allow for the dynamic benefits of sub-hourly settlement to be realized with a much lower implementation cost, would incent load and energy storage to bid into the market, and allow for comparable treatment to generators who receive payment for suppliers on the margin.

The AESO engaged stakeholders in April 2021 on the implementation of ALM; and received stakeholder feedback on the AESO’s draft recommendations, which was used to determine the final recommendations. The purpose of this document is to outline the ALM design concepts that will be implemented, prior to proceeding with ISO rule consultation. The following sections outlines the principles, objectives and key concepts that will inform the drafting of the ALM rules.

## Principles and Objectives

The following principles were considered when designing ALM:

- Fairness:
  - Comparable treatment of loads and generators. Participating load dispatch requirements and adjustments are analogous to generators.
- Efficiency:
  - Provides the right settlement signal to incent load participation and flexible consumption.
  - Respecting participants bids by ensuring that they will not pay more than bid price for dispatched energy consumed.
  - Least cost implementation option available to enable flexible load consumption.
- Competition:
  - Demand curve from load bids would provide better price signal for the market, allows for competitive market response.
  - Could be applied to energy storage assets

The design objective for ALM was to create an equivalency to payment to suppliers on the Margin (“PSM”). This could be done by following processes and rules from PSM as closely as possible while accounting for differences in sink vs source assets. The settlement principles remain the same, processes must be auditable, and measurements must be revenue quality. Formulas and calculations for do not differ in intent from PSM.

## Key Terminology

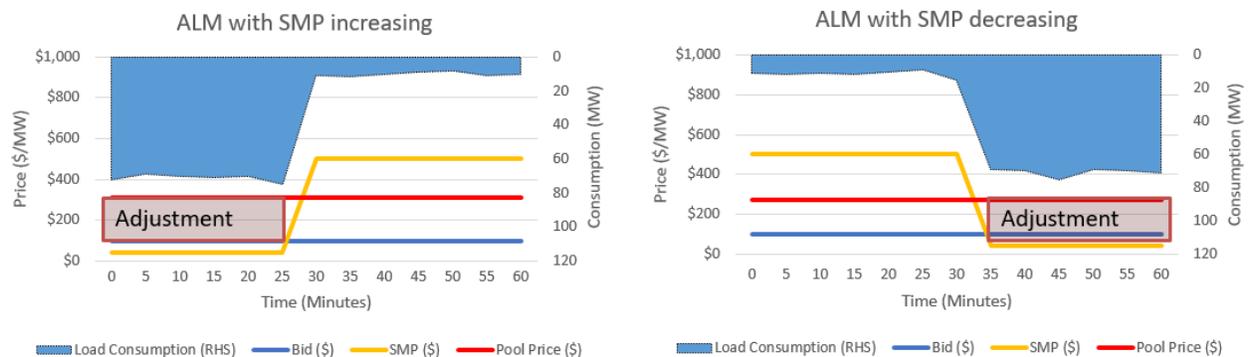
The following are key terms for ALM:

- Bids: price, quantity pair to indicate consumption
- Dispatched on: load to start consuming
- Dispatched off: load to stop consuming
- Compliance to dispatches and directives: loads must show a response in consumption equal to the dispatch within an acceptable dispatch variance

## Key Concepts

### What is ALM?

ALM is a true-up to bid approach, which is analogous to PSM. This ensures that load does not pay any more than the bid price for dispatched energy consumed. The adjustments equals the difference between pool price and bid price, multiplied by volume of energy consumed in the dispatched bid block. Below are visual representations of the adjustments:



## Eligibility

Using the principles and objectives outlined earlier, the AESO made recommendations on ALM eligibility which was supported by the majority of the stakeholders we engaged with. Eligibility criteria for ALM are fair because it is equivalent to generator requirements for PSM. The eligibility requirements are also required for settlement calculations to be completed i.e. Without SCADA or revenue quality measurements, compliance and metered volumes cannot be calculated.

To be eligible for ALM, the following conditions must be met:

- Must be a sink asset
- Must bid into the energy market
- Must comply to dispatches and directives
- Must have SCADA
- Measurements must be revenue quality

## Adjustment Price Level

Using the principles and objectives outlined earlier, the AESO made recommendations on an ALM adjustment price level which most stakeholders supported. Adjustment that is based on bid is fair as it is the equivalent treatment of sink and source assets; efficient as it incents load to follow dispatch and ensures load does not pay more than the bid price for energy consumed; and competitive because it provides a better price signal through the demand curve.

ALM adjustment will be based on bids submitted by:

- Calculate adjustment price based on bid price that market participant submits
- Adjustment price is the difference between pool price and block bid price

## Adjustment Determination

Using the principles and objectives outlined earlier, the AESO made recommendations on ALM adjustment determination which most stakeholders supported. Modifying the PSM formulas to account for generation vs load ensures that the treatment of ALM is equivalent to PSM. The ALM adjustments is calculated as the difference between pool price and bid price, multiplied by volume of energy consumed in the dispatched bid block

ALM formula:

- If  $(A-B) \leq (C-B)$ , Use  $(A-B) * (PP - D)$
- If  $(A-B) > (C-B)$ , Use  $(C-B) * (PP - D)$
- Where:
  - A: Metered volume
  - B: Dispatched blocks above marginal block
  - C: All dispatched blocks (marginal block + B)
  - D: Block bid price
  - PP: Pool Price

## Allocation of Cost

The AESO presented several options for the ALM allocation of cost. The majority of stakeholders agreed that ALM cost should be allocated to all loads. This would be fair as it is equivalent to PSM; and it would also be efficient as this option would be cost effective as it will result in minimal IT system changes.

ALM cost will be allocated to:

- All loads consuming in the hour that ALM is paid

## Next Steps

After reviewing stakeholder comments received for ALM, the AESO has determined the following next steps:

- The AESO is reviewing the ISO Rules and will determine if/when any changes are required to fully incorporate ALM key concepts into the ISO rules. Any recommended ISO rule changes and any further engagement on ALM will be done in conjunction with the ongoing Energy Storage Rule Amendment work. To learn more about the Energy Storage Rule Amendment initiative, including stakeholder engagement sessions that are planned for fall 2021, [please click here](#).