

Chapter 1: Introduction and Overview

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- The Imbalance Settlement Price is the primary price used for settlement in the Balancing Market, and therefore it is an important signal for the whole market;
- It is the primary signal which “Balance Responsibility” is implemented:
 - Participants are financially responsible for differences between their trade volumes and actual consumption or generation;
 - The Imbalance Settlement Price is the price applied to this difference.
- The I-SEM High Level Design detailed that:
 - There should be a single Imbalance Settlement Price for imbalances in all directions, and all Energy Balancing actions;
 - The price should be marginal, based on the cost of generating one more or one fewer MWh to provide balancing energy;
 - Non-Energy Balancing actions should be settled pay-as-bid.

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- The I-SEM ETA Markets Decision Paper went into further detail on what the price intended to represent and achieve:
 - Imbalance prices should be based on the actions taken by the TSO to balance the system;
 - The approach should be capable of delivering prices shortly after the trading period;
 - Any arrangements should not be overly influenced by any TSO subjectivity in determining which actions, or parts of actions, are classified as non-energy and thus excluded from the calculation of imbalance prices; and
 - The basis of the price calculation should be transparent.
- In addition to this, the SEMC has decided that an approach of Flagging and Tagging (similar to that in the BETTA market in GB) should be implemented in the I-SEM:
 - It was considered more strongly aligned with the intention of the HLD as it explicitly identifies the nature of each action taken, and the marginal energy action taken to meet the NIV;
 - It was also considered that these measures can build upon the GB experience, while accounting for differences due to the I-SEM.

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- In order to ensure the greatest level of objectivity that can be achieved, three elements were outlined in the decision:
 - First, the process for the classification of actions taken by the TSOs needs to be clearly documented, thus avoiding ambiguity;
 - Second, the processes put in place by the TSOs to tag out non-energy actions from the calculation of imbalance prices must be published, and the TSO performance audited and reported on annually;
 - Third, the SEMC considers that the implementation of Flagging and Tagging in TSO systems should focus on solutions that are automated to the greatest extent practical.
- The approach to marginal pricing and pay-as-bid settlement was also clarified:
 - Actions which are “in merit” (i.e. have an offer or bid price which would result in a less favourable settlement outcome than at the Imbalance Settlement Price) should be settled at the Imbalance Settlement Price;
 - Otherwise they should be settled based on their offer or bid price.
- This is an important feature, as it means units can submit prices based on their marginal costs rather than based on their expectation of the Imbalance Settlement Price, as they are guaranteed to receive the better price.

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- In summary, the Imbalance Pricing rules and functionality has been developed in-keeping with these decisions to have the following characteristics:
- Efficient:
 - Marginal energy action taken to meet the Net Imbalance Volume;
 - Based on actual dispatch / actions taken;
 - Mitigates imbalance price pollution by non-energy actions;
 - Mitigates spurious outcomes and/or excessive volatility; and
 - Can produce prices within one hour of real time.
- Robust & Adaptable:
 - Builds on GB experience;
 - Adapted for non-energy requirements of I-SEM;
 - Not susceptible to over-tagging; and
 - Capable of operating under changing market dynamics.
- Objective & Transparent:
 - Clearly documented process published;
 - Automated to the greatest extent practical; and
 - Not be overly influenced by any TSO subjectivity.

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- In the I-SEM CRM Detailed Design Decision Paper 1 it was also decided that the Imbalance Price would be one of the reference prices for the Capacity Market performance incentives (Difference Charges), in particular the reference price for delivery shortfall;
- As part of that it was decided to introduce an Administered Scarcity Pricing function into the Imbalance Price to enhance these incentives:
 - This price sets the Price Floor at times of system stress (for example, reserve shortfall or load-shedding) to a much higher price than would normally be expected in the balancing market, but which should be reflective of the cost of scarcity in such times;
 - This creates higher incentives on:
 - Generator Units to be available in the Balancing Market at these times due to expectation of being paid this higher price;
 - Capacity Market Units to ensure there is no shortfall in capacity provision in the energy markets at these times due to expectation of being charged this higher price;
 - Supplier Units to reduce their consumption, or to ensure that they have contracted for all of their consumption through their ex-ante market trades, at these times due to exposure to a higher price.