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## Contingency Imbalance Price Creation Methodology

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### BSC Panel

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Purpose of paper **For Information**

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Summary **Elexon has provided an outline of how a Contingency Imbalance Price would be created and how the Panel would be engaged and could alter the methodology in order to approve during an 'Emergency Situation' event.**

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### 1. Background

- 1.1 During a Section G 'Black Start Event' (BSE), there may be a time when the NETSO issues Elexon instruction that the Market Suspension Threshold<sup>1</sup> has been breached. At this time, Elexon will suspend the market aligned to the date and beginning of the Settlement Period as advised by the NETSO. The Market will remain suspended until instruction from the NETSO is received of when total system restoration could take place and the suspension on the market lifted.
- 1.2 A key step prior to resuming normal BSC market operations as part of the final steps of a Market Suspension exit, is the application of the Contingency Imbalance Price, to the Settlement Administration Agent (SAA). The following will describe the process for determining the price(s), the methodology used and the process for engaging Panel and seeking approval for usage of the 'Contingency Imbalance Price'.
- 1.3 At Panel Meeting 332, Elexon took The Panel through both the methodology of creating a Contingency Imbalance Price<sup>2</sup> and the process by which approval would be sought from The Panel.

### 2. Methodology

- 2.1 The following is a high-level methodology, based on Section 1.7 of [Section T: Settlement and Trading Charges](#) (Single Imbalance Price<sup>3</sup>), that was discussed in Panel Meet 332.

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<sup>1</sup> Where the NETSO informs Elexon (pursuant to OC9.4 of the Grid Code) that a Partial Shutdown exists, the NETSO will monitor the spot time Initial National Demand Out-Turn against its spot time National Demand forecast made day-ahead and prior to the commencement of the Partial Shutdown (the "baseline forecast") at least once every 15 minutes. This monitoring will continue until the time at which either:

- (a) there is a Total Loss of the transmission system, evoking a Full Shutdown
- (b) the NETSO determines, in its reasonable opinion, that the spot time Initial National Demand Out-Turn is equal to or lower than 95% of the baseline forecast (the "Market Suspension Threshold");
- (c) no more baseline forecast data is available to the NETSO; or
- (d) 72 hours have elapsed since the time and date that the Partial Shutdown commenced (as initially determined by the NETSO)

<sup>2</sup> Paper 332-12 and complimentary slides

<sup>3</sup> Note that a 'Single Imbalance Price' and a 'Contingency Imbalance Price' have the same meaning in the context of a restoration of normal market operations, following a Black Start event.

Steps	Activity
Step 1	<p>Elexon obtains the latest version of prices from the Elexon Portal</p> <ul style="list-style-type: none"> <li>Weekly copies are being kept for resilience in the event of data availability issues at the time of needing to create the Contingency imbalance Price</li> </ul>
Step 2	The mean of the System Sell Price and the System Buy Price calculated respectively for each set of corresponding Settlement Periods in the 30 whole Settlement Days immediately preceding the Settlement Day on which the Black Start Period commenced.
Step 3	Exclusion of any Settlement Periods, the NETSO determines unsuitable or occurred during a previous event, i.e. where emergency instructions were issued during a previous Grid Code event.
Step 4	If any day within the 30-day period preceding the Settlement Day of a Black Start event are a Clock Change Day, this day is to be excluded and a further Settlement Day (immediately prior to 30 Settlement Days) used to achieve a mean of 30 System Sell Prices and System Buy Prices, for each corresponding Settlement Period.

- 2.2 Following the discussion, The Panel wanted to know what further considerations and assurances could be added to the methodology, so that a CIP is a true and reflective view of the prices prior to a Black Start Event.
- 2.2.1 As part of the additional assurances and criteria, The Panel were keen that if the proposed CIP was not agreed, the factors involved in the calculation of the CIP could be explored within the Panel Meeting. This would not only negate the need to take away the CIP and recalculate and arrange another Panel Meeting, but would also save on time for Panel to understand the methodology, calculation and ultimately the final CIP, with it being done 'live' within the meeting.
- 2.2.2 Multiple versions of the CIP will be presented to The Panel, as described below, in Section 3 'Options to be presented to The Panel'.
- 2.2.3 The following additions will be show to The Panel, as part of proposing all Contingency Imbalance Price options:
- a) Total view of all Settlement Period Prices for the last forty days prior to the day of the Black Start Event
    - i These prices will be accompanied by a colour gradient to demonstrate the variances in process across the days and/or Settlement Periods.
    - ii Additionally the top ten highest and lowest prices across the forty day period will be highlighted to demonstrate the range or pricing across the forty day time period.
  - b) In order to further aid The Panel in identifying any prices, used with the CIP that may need discussion or discounting, daily and Settlement Period pricing will be shown in graph form, for easy identification of prices that seem to go against the trend of the forty day period. This will show:
    - i Spread of prices across a particular Settlement Date
    - ii All, some or individual Settlement Periods across the forty days prior to the BSE, to see the range of prices for Settlement Periods and times of day. This will be configurable via a filter.
    - iii Identification of specific Settlement Days with higher than average prices versus the other.
    - iv Identification of specific Settlement Periods with higher than average prices versus other Settlement Periods.
  - c) Highlighting of any Settlement Periods that NETSO have directed Elexon to remove from the CIP calculation. Elexon will present the view with the Settlement Period in, as described in 2.2.3(a) and also the view with these specific periods removed.
- 2.3 By including the aforementioned additional criteria, The Panel will be able to see 'live' what factors are causing the proposed CIP options to be the values they are.
- 2.3.1 The multiple versions of CIP, as described in Section 3, could be included on the graph to aid The Panel on which version of CIP to ultimately agree on in order to recommence the BSC Market.
- 3. Options to be presented to The Panel**
- 3.1 Elexon will present four versions of Contingency Imbalance Price to the Panel, with the differences being as follows:

- i **Thirty day average** – this will be the average prices, at Settlement Period, of the last thirty days, before a Black Start Event, starting the first full day prior to the Black Start Event.
- ii **Thirty day average with specific Settlement Periods removed** – this would be the same logic as in 3.1.1, but with any specific Settlement Periods removed, as directed by NETSO.
- iii **Non-sequential thirty day average** - this will be the average prices, at Settlement Period, of thirty days, before a Black Start Event. The thirty days may not be sequential days, as certain days may have been removed from the calculation, i.e. Bank Holidays, clock change days, given their impact on the averages.
- iv **Non-sequential thirty day average with specific Settlement Periods removed** – following on from the logic in 3.1.3, this would be an average of thirty non-sequential days, prior to the Black Start event and with specific Settlement Periods also removed, as directed by NETSO.

#### 4. Recommendation

4.1 We invite the Panel to:

- a) **NOTE** the methodologies that would be used to create the Contingency Imbalance Price options; and
- b) **NOTE** that the Panel will ultimately need to approve one of the presented Contingency Imbalance Price options, in order for BSC Market operations to recommence.

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#### For more information, please contact:

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