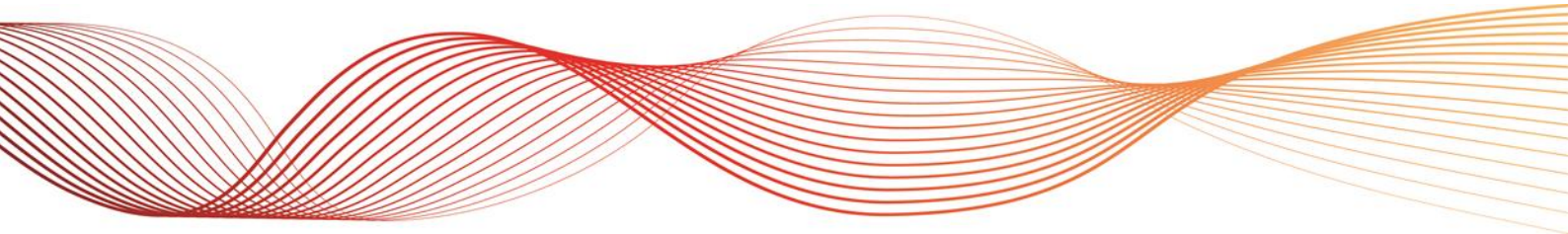




# INTERVENTION PRICING METHODOLOGY

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# IMPORTANT NOTICE

## Purpose

AEMO has prepared this document as required by rule 3.9.3(e) of the National Electricity Rules (Rules) and has effect only for the purposes set out in the Rules. The Rules and the National Electricity Law (Law) prevail over this document to the extent of any inconsistency.

The methodology in this document is that which was set out in the final determination of the National Electricity Market Management Company Limited's (NEMMCO) review of the intervention pricing methodology (issued on 6 December 2007), inclusive of minor and administrative amendments that have occurred between that date and the date of publication of this document.

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# 1. NATIONAL ELECTRICITY RULES REQUIREMENTS FOR INTERVENTION PRICING

The requirements for intervention pricing in the National Electricity Market (NEM) are outlined in Clause 3.9.3 of the Rules, and are interpreted as follows:

## 1.1 Intervention Pricing Calculation

The Intervention Prices shall be, under Clause 3.9.3(b)...

“...at the value which AEMO, in its reasonable opinion, considers would have applied as the *dispatch price* and *ancillary services price* for that *dispatch interval* in the relevant *region* had the *AEMO intervention event* not occurred.”

The Intervention Prices preserve the market signals that would have existed had the intervention action described above not been taken, and it is used as the dispatch price and market ancillary services prices for the purposes of spot price determination and settlements.

The scenario that generates the Intervention Prices is the so-called “What-if” scenario. The Intervention Prices are also called the “What-If” dispatch prices and market ancillary services prices.

## 1.2 Intervention Pricing Consistent With Price Determination Principles

In accordance with Clauses 3.9.1, 3.9.2 and 3.9.2A of the Rules, the intervention pricing calculation shall apply the same principles relating to unit, network and power system security constraints as used in determining the dispatch price and market ancillary services prices under normal market operating conditions.

## 1.3 Intervention Pricing Calculated and Published Every 5 Minutes

The Intervention Price is only required to be calculated by the on-line Dispatch process and published every 5-minutes.

While there is no explicit Rules requirement to calculate and publish Intervention Prices for the Pre-Dispatch process, changes were implemented in the November 2003 MMS release to introduce Intervention Pricing to Pre-dispatch.

Note that implementation of the intervention pricing calculation other than on-line (for example, as an off-line manually-initiated batch process for a series of intervention price dispatch intervals) would not be compliant with Clauses in the Rules dealing with intervention pricing (Clause 3.9.3) and with Market Information reporting (Clause 3.13.4). Furthermore the intervention-based dispatch price and market ancillary services prices (and therefore the spot prices) for settlements would not be available until the off-line batch process had completed, which may be some time after the end of each trading interval.



## 2. INTERVENTION PRICING PROCESS

### 2.1 Initiation

Every run of both the on-line Dispatch process and the Pre-dispatch process checks for the presence of any AEMO-invoked intervention-type generic constraints applying for any interval over the relevant scheduling period.

If any invoked intervention-type generic constraints are detected an additional intervention pricing run of the NEMDE Dispatch algorithm is automatically performed in parallel with the base case target run, in order to calculate Intervention Prices.

### 2.2 Calculation

On initiation of the intervention pricing run, all invoked generic constraints with an "Intervention" status are automatically ignored in the intervention pricing run calculations.

The same inputs that are used in the base case target run are loaded into the intervention pricing calculation, with the following exceptions:

- The initial loading for each unit is set equal to the "What-if" value of that unit's dispatch target calculated in the intervention pricing run of the previous dispatch or trading interval (if one was performed) rather than using the metered SCADA value.
- The initial operating mode for each fast start unit is set equal to the "What-if" value of that unit's fast start mode calculated in the intervention pricing run of the previous dispatch or trading interval (if one was performed).

The initial loading for each *interconnector* is set equal to the "What-if" value of that *interconnector's* flow target calculated in the intervention pricing run of the previous dispatch or trading interval (if one was performed) rather than using the metered SCADA value.

For the very first intervention pricing run only the metered SCADA values are available and are therefore used.

The NEMDE Solver algorithm is then run and all the "What-if" dispatch price and *ancillary services prices*, unit and *interconnector* "What-if" dispatch targets are written back to the MMS database for reporting to the market.

Arrangements for the Basslink *interconnector* which has *market ancillary service* transfer capability:

The "What-if" run may be performed twice if the Basslink *interconnector* is capable of transferring market ancillary services: One run is performed with the Frequency Controller "on" and the other with it assumed to be "off". The *dispatch prices* and *ancillary service prices* for the intervention price dispatch interval are published from the "What-if" run with the lower objective function value.

### 2.3 Reporting

After completing the intervention pricing run, both the original base case target run and the intervention pricing run solutions are fully reported to the market.

The base case target run solution is flagged as "Intervention=1" and the intervention pricing run solution is flagged as "Intervention=0".

For on-line Dispatch the dispatch prices from the intervention pricing run are used in the dispatch price averaging calculation of spot price for the relevant trading interval, which is subsequently published and used in settlements.



### 3. “WHAT-IF” INPUTS TO THE INTERVENTION PRICING CALCULATION

Apart from the “What-if” inputs, the remaining market-based inputs that are passed to both the target and intervention pricing runs of on-line Dispatch algorithm (i.e. bids, offers, network constraints, demand) are identical.

As discussed previously the “What-if” inputs are determined as a function of the “What-if” results of the previous dispatch interval’s intervention pricing run rather than from the results of the previous dispatch interval’s base case target run.

Note that as an intervention progresses over time, the values of the “What-if” inputs derived in the intervention pricing run may differ significantly from the values of the corresponding inputs used in the base case target run, with this difference potentially increasing the longer the intervention continues.