

Constraint Management Service Description

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Ian Pashley

1. What is the Constraint Management Service?

The Constraint Management Service (CMS) is designed to manage BM price risk during constraints. In exchange for an availability payment, BM prices are required to be within set limits. The CMS is targeted at sites within constrained zones, as this is where the cost risk for the System Operator lies.

The CMS caters for both import and export constraints and can be provided by generation and demand sites. For the purposes of this note, the service will be described as if being provided by a Power Station. Note that the service is site specific rather than BMU specific; all available BMUs at a Power Station are required to comply with the price submission requirements.

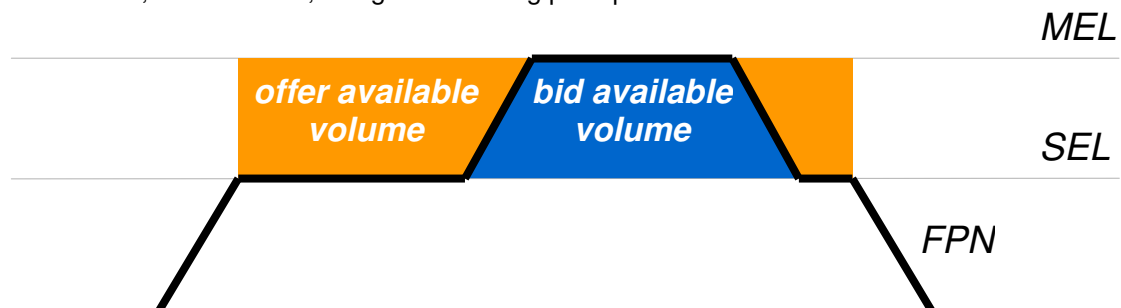
2. Procurement

The CMS is procured via competitive tender. The tender process is based around a 10 working day cycle, with 5 days for Providers to prepare a tender following invitation and 5 days for National Grid to assess the tender, prior to service commencement.

An Invitation to Tender (ITT) will generally be to manage either an import constraint or an export constraint, but not both. An availability payment will be tendered; tenders to manage import constraints (which require increases in generation) will feature a cap on BM offer prices, and tenders to manage export constraints (which require decreases in generation) will feature a collar on submitted BM bid prices.

3. Availability: Import and Export Constraints

The CMS applies to synchronised generation only - it is not for synchronising additional generation or desynchronising surplus generation. The amount of MW available is determined, at BMU level, using the following principles:



For an export constraint, the CMS will collar the bid price applicable to reductions in MW from the notified Final Physical Notification (FPN) to the Stable Export Limit (SEL). Similarly for an import constraint, the CMS will cap the offer price applicable to increases in MW from the notified FPN to the Maximum Export Limit (MEL).

4. Price Caps/Collars

The CMS allows for either fixed price caps/collars (an absolute £/MWh number) or index-linked caps/collars, which cater for variations in the cost of fuel and CO₂ allowances and feature a tendered 'price margin'. BM prices must be submitted so that they lie within the bounds set by the caps or collars.

Instructions to deliver increases or decreases in MW will be made via the issue of bid-offer acceptances.

5. Payments

A half-hourly availability payment is made based on the volume of energy available to be instructed. 'Per BMU' volumes are aggregated to provide an overall Power Station volume.

The CMS is designed to ensure that the price paid in the BM for increases or decreases in MW will not breach the caps/collars. However National Grid recognises that, on occasion, the interaction between the calculation of price indices and the timescales associated with BM price submission may result in breach of caps/collars. Bid-offer acceptances issued where submitted prices have breached caps/collars will be subject to a reconciliation payment such that the difference between the actual price paid and the caps/collars is repaid.

Because of the existence of the reconciliation mechanism it is not necessary for National Grid to withhold availability payments in the event of a breach of the price caps/collars. However to deter persistent breaches National Grid has the right to terminate provision of the CMS for the remainder of a tendered period if a Provider persistently fails to price within caps/collars and such failure amounts to an intentional or reckless breach or disregard by the Provider of its obligations under the terms of the CMS.

6. Overview of Formulae

The formulae for calculating the half-hourly Capped Offer Price (COP_{ij}) and Collared Bid Price (CBP_{ij}), on a BMU basis, are as follows:

$$COP_{ij} = \left[\frac{FP_{ij} + CP_j}{FE_i} \right] + OC, \quad CBP_{ij} = \left[\frac{FP_{ij} + CP_j}{FE_i} \right] - BC$$

Where:

FP_{ij} = the fuel price applicable for the BMU during the Settlement Period:

For gas plant: within-day SAP (applicable during Settlement Period j)

For coal plant: cifARA (applicable during Settlement Period j)

For oil plant: ICE Brent (applicable during Settlement Period j)

FE_i = the fuel efficiency factor for the BMU.

CP_j = the Carbon Price, determined by reference to the daily EXC CFI Futures Contract Emissions Index applicable during Settlement Period j, and the following fuel-specific Emissions Factors (EF):

Gas: 0.19 tonne CO₂/MWh

Coal: 0.30 tonne CO₂/MWh

Heavy Fuel Oil: 0.26 tonne CO₂/MWh

Gasoil: 0.25 tonne CO₂/MWh

OC = the Offer Index Margin. This is a constant added to the fuel and carbon indices to arrive at the overall offer cap; and is a tendered parameter.

BC = the Bid Index Margin. This is a constant subtracted from the fuel and carbon indices to arrive at the overall bid collar; and is a tendered parameter.