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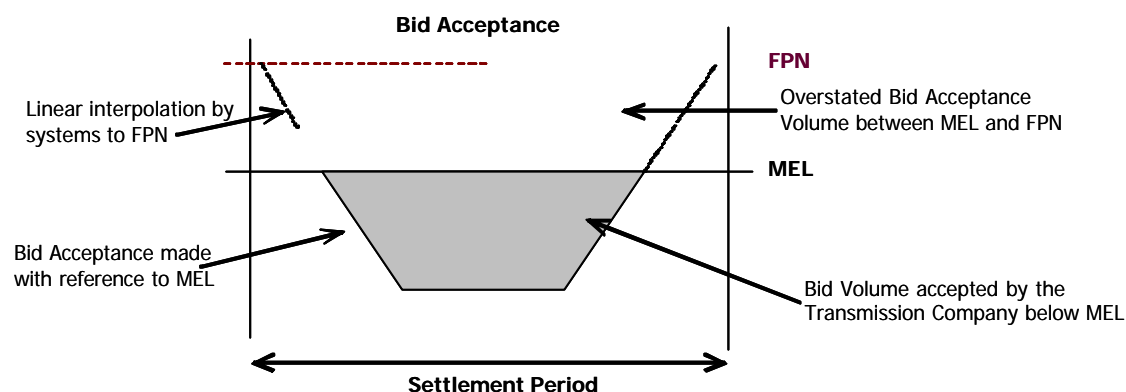
Title (mandatory by originator)

Issues with Bid Acceptance Volumes where Re-declaration of MEL is below FPN

Description of Problem/Issue (mandatory by originator)

Summary

In summary, an issue arises where a Party re-declares its Maximum Export Limit (MEL) below its Final Physical Notification (FPN) after Gate Closure (i.e. cannot amend the FPN), and has a Bid Acceptance made. The Transmission Company accept the Bid with reference to the MEL at the time the Bid was taken. However, the Acceptance Volume is calculated by the Settlement systems, (in accordance with the Code), with reference to the FPN prevailing at Gate Closure for the Settlement Period, illustrated diagrammatically below.



This has the effect of overstating the Accepted Bid Volume for the BM Unit, which has consequential effects on the Credited Energy for the Party (by removing some, or all, of the imbalance between FPN and MEL). Furthermore, the overstating of the Accepted Bid Volume has implications on the Net Imbalance Volume (NIV) calculation, and therefore on the resulting Energy Imbalance Price.

It should be noted that re-declarations to MEL are not an issue where no Bid is taken, as the MEL will reflect the metered volume for the BM Unit, and therefore the BM Unit will be in imbalance for the difference between FPN and MEL.

For the avoidance of doubt, the Transmission Company is operating in line with its obligations and the Code, and the Settlement Calculations are being run in accordance with the Code. Given that the Transmission Company takes Bid – Offer Acceptances in line with the physical attributes of the BM Unit at the point of making the Acceptance, it appears that this is potentially a Settlement issue in respect of the way Bid – Offer Acceptance volumes are calculated, rather than an issue with the way in which Bid – Offer Acceptances are taken and reported.

Detail of the Issue

The following explores this issue in more detail:

The Code, Section Q 5.1.3(a)(ii)(1) obliges the Transmission Company to ensure that Bid – Offer Acceptance data for Bid – Offer Acceptances made is consistent with the following data, prevailing at the time the Bid –

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Offer Acceptance is made (data is specified in Q 5.2.1): The Physical Notification, Dynamic Data set, Maximum Export Limit (MEL) and Maximum Import Limit (MIL), and Quiescent Physical Notification (QPN).

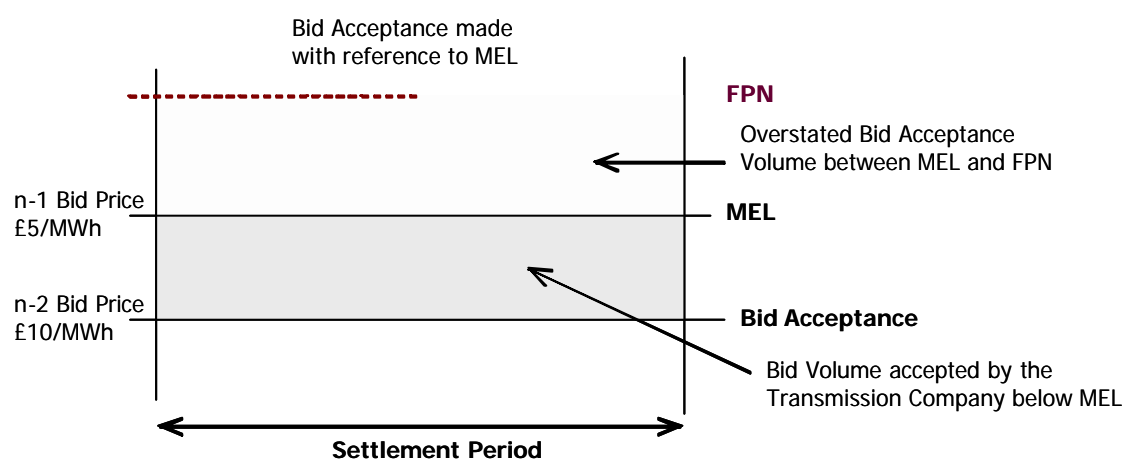
This effectively means that where MEL for a BM Unit is re-declared below FPN, and the Transmission Company accepts a Bid, the volume the Transmission Company expects to be delivered is from MEL (not FPN), and the implication is that the price the Bid is accepted in respect of is the Bid – Offer pair(s) at and below the re-declared MEL.

However, the Code derives Bid – Offer Acceptance data in relation to FPN, and does not take into consideration amendments to MEL (or other data specified in Q5.2.1). Thus overstating, as illustrated above, the Bid Acceptance volume.

Simplistic Example to Illustrate the Implications of the Issue on Settlement Calculations

Working through a simplistic example illustrates the effect this has on the Settlement calculations:

BM Unit A has an FPN of 500 MW in place for a Settlement Period. After Gate Closure, the MEL is re-declared to 400 MW. A Bid is accepted that takes the BM Unit down to 300 MW, illustrated below:



The Transmission Company has accepted a Bid volume of -50 MWh (100 MW / 2), i.e. MEL to Bid level, at a Bid Price of £5 / MWh, i.e. the Transmission Company 'expects' the Party to pay the system £250 for the Bid.

However, the Settlement systems calculate a Bid volume of -100 MWh (200 MW / 2) with 50 MWh at £5 / MWh and 50 MWh at £10 / MWh, i.e. the Party pays the system £750 for the Bid. Thus the Party has to pay the relevant Bid Price for the undelivered volume (i.e. FPN – MEL).

Had the Bid price have been negative, the system would have paid out more for the Bid Acceptance. Furthermore, it is assumed that the Transmission Company did not consider the Bid Price of the portion of volume above MEL when taking the Acceptance. Therefore this may lead to issues where the Bid Price for the portion of volume between FPN and MEL is unfavourable, and which could have potentially led the Transmission Company to have taken a Bid on a different unit, had the Bid Price of the volume between FPN and MEL been considered.

Looking at the Settlement Calculations, and following the effect of overstating the Bid volume through them:

1. The Settlement systems calculate the Period BM Unit Balancing Services Volume (OBS) as -100 MWh (i.e.

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FPN to Bid level);

2. The QBS is used to derive the Expected Metered Volume for the BM Unit, which is calculated to be 150 MWh [FPN (250 MWh) + QBS (- 100 MWh)], instead of 200 MWh (FPN of 250MWh + QBS of -50 MWh);
3. Had the BM Unit been subject to any MVRNs, the volume MVRN'ed across is adjusted for the incorrect volume, so assuming a 100% MVRN, the recipient Subsidiary Party would receive 250 MWh (QM of 150 MWh minus a QBS of -100 MWh) instead of 200 MWh (150MWh - - 50 MWh), and the Lead Party would have a Credited Energy of - 100 MWh (QM of 150 MWh – QCE to Sub Party of 250 MWh) instead of -50 MWh (QM of 150 MWh – QCE of 200 MWh);
4. Otherwise, the Lead Party has a Credited Energy of 150 MWh (i.e. the QM for the BM Unit);
5. The Account Energy Imbalance Volume (QAEI) is calculated as QACE – QABS – QABC, assuming the Party contracted to FPN, the QAEI would be $150 - -100 - 250 = 0 \text{ MWh}$, instead of $150 - - 50 - 250 = -50 \text{ MWh}$;
6. Given the negative QAEI, the Party would have - 50MWh exposed to the SBP, (as they did not meet the contracted level). Assuming an average SBP of £18 / MWh (using the Credit Assessment Price (CAP)), the Party is protected from exposure to £900 worth of SBP. This more than offsets the 'over' payment of the Bid Price for the overstated Bid volume, and this is likely to be the case in the majority of circumstances (given that SBP is usually above contract price, and Bid Prices will be below contract price in order to maximise the commercial benefit of delivering a Bid). This will affect the amount of RCRC (Residual Cashflow Reallocation Cashflow) as there is 'missing' imbalance volume and thus an impact on Imbalance charges;
7. Had the Party had MVRNs in place, then its Credited Energy is incorrect, and this will affect its RCRP (Residual Cashflow Reallocation Proportion), and thus have implications for other Parties.

Furthermore, aside from the implications on Parties, the overstated Bid volume will be used in the derivation of the NIV, overstating the market length – the market will appear to be longer than it is in reality, and in extreme cases may be switched from short to long by the overstated Bid volume(s). The NIV will be incorrect, as the netting is including a Bid volume that was not instructed by the Transmission Company, and thus the Energy Imbalance Price calculated from the NIV will be incorrect.

The 'over payment' by the Party (or where the Bid price was negative, the 'over payment' to the Party) for the overstated Bid volume will be reflected in Balancing Services Use of System (BSUoS) charges.

Further Analysis of 'Live' Occurrence of the Issue

The magnitude of this issue is not clear. However, analysis provided by Centrica (the Party that identified the issue) indicates that there were approximately 500 instances of this happening in January 2004 alone. An example of DRAXX-5, on 20 January 2004 Settlement Period 32 was provided.

FPN was 645 MW, with a MEL of 510 MW. A Bid to 465 MW was accepted across the entire Settlement Period. The Bid volume was calculated as 90 MWh (180 MW, i.e. 645 – 465), as it was calculated relative to FPN.

The MEL at 510 MW means that only 22.5 MWh (45 MW, i.e. 510 – 465) of Bid was actually delivered.

Bid Price was £15.80 / MWh, which means that DRAXX-5 paid out (ignoring TLMS) £1422. The cashflow should have been £355.50, so DRAXX-5 paid out £1066.50 too much for delivering the Bid.

However, the SBP for Settlement Period 32 was £23.21. Given that DRAXX-5 was protected from imbalance for

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the difference between FPN and MEL ($645 - 510 = 135$ MW) i.e. 67.5 MWh, DRAXX-5 should have paid out £1566.68 in imbalance charges.

Therefore the additional Bid payment was offset by the removal of exposure to imbalance, and thus DRAXX-5 "saved" £431.50.

The Indicative NIV for Settlement Period 32 was -348.6685 MWh. Therefore given that the NIV contained -67.5 MWh too much (the overstated Bid Volume), (and assuming that DRAXX-5 was the only occurrence of this issue), the Indicative NIV should have been -281.1685 MWh, making the market less long, and potentially having quite an impact on the System Sell Price, by removing 67.5 MWh of the most expensive balancing actions in the NIV.

Clearly if all 500 instances of this issue arising in January were of this order of magnitude, then this indicates that there is a material issue in terms of the impact on the Settlement cashflows. However, the Transmission Company do not believe there to be any operational issues arising from this issue, i.e. this issue does not impact the ability of the Transmission Company to balance the system.

Potential for Exploiting the Issue, i.e. Gaming Possibilities

It should be noted that the potential for deliberately 'exploiting' this loophole could be considered to be relatively limited, as it is expected that the MEL re-declaration would be made post Gate Closure (otherwise the PN would have been re-declared (given the points below, it is unlikely that the PN would not be re-declared if at all possible)), and thus the Bid Prices in place prior to the Settlement Period would prevail. Since:

- (1) It cannot be predicted whether the Transmission Company is going to take the Bid on that BM Unit;
- (2) The Bid Price would have to be favourable to the Transmission Company to make the Bid attractive and increase the possibility of it being called (potentially reducing the 'profit' for the BM Unit when the Bid is called outside of the circumstances when this issue arises);
- (3) The Bid Price would have to be below the SBP for there to be any advantage from re-declaring MEL below FPN; and
- (4) Even if a Bid is accepted, the overstated Bid Acceptance volume may not 'cover' the imbalance volume (i.e. FPN minus MEL), still exposing the Party to imbalance for the 'uncovered' volume;

It is unlikely that a Party would take the risk of the exposure to the System Buy Price to attempt the commercial advantage. Therefore it is believed that this loophole mainly provides an accidental advantage to the affected Party. However, concerns have been raised that there may be an advantage to be gained under certain circumstances, however it is felt that since the Transmission Company is aware of the issue and monitor MEL re-declarations, there are procedures in place to check any such exploitation.

Issue with MIL Re-declarations

There appears to be a converse issue, in terms of re-declarations of Maximum Import Limit (MIL) (i.e. the maximum demand limit in the Settlement Period), where the MIL is re-declared above the FPN (i.e. the MIL is less negative than the FPN). If the Transmission Company then takes an Offer on the BM Unit (perhaps to move it further away from MIL to allow more foot room), the Offer Acceptance volume is calculated from FPN, and the Offer volume is overstated. The Party is paid more than it should be for the Accepted Offer, but misses out in terms of the imbalance volume exposed to the System Sell Price (as the MIL re-declaration would make the

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Party longer). However, given the relative paucity of demand side participation in the Balancing Mechanism, it is suspected that this is not a material issue at this time.

Proposed Solution(s) *(mandatory by originator)*

To rectify this issue requires a Modification Proposal to be raised. If a Modification Proposal is raised, then any Modification Group should consider the cost benefit of addressing this issue carefully, as the system changes required are likely to be complex.

The Party that raised this as an issue indicates that the solution would be to amend the Code (via a Modification Proposal) such that the Bid – Offer Acceptance volumes are calculated in relation to the MEL, where MEL is below FPN. Similarly given the potential issue with MIL re-declarations, by implication, Bid – Offer Acceptance volumes should be calculated in relation to the MIL where the MIL is above the FPN, in order to ensure the symmetry of the trading arrangements and to ‘future proof’ in the event of increased demand side participation.

A point to note when defining the solution is that where the MEL / MIL is re-declared following the Transmission Company taking a Bid – Offer Acceptance, the Transmission Company takes no further action, i.e. the Transmission Company expects the Bid – Offer volume requested to be delivered, and therefore the processing of Bid – Offer volumes should not be amended under this circumstance.

Potential Solution

Simplistically:

1. Where there has been a Bid Accepted, then the FPN should be compared to the MEL;
2. Where the MEL is less than the FPN (and both are positive numbers (noting that MEL may be zero)), then:
 - a. Where the MEL was re-declared (from the timestamp in the received file (CP921)) after the Bid – Offer Acceptance was made, then process the Bid – Offer Acceptance as normal;
 - b. Where the MEL was re-declared before the Bid – Offer Acceptance was made, then the FPN used for determining Bid – Offer Acceptance volumes (and QBS) should be adjusted to the re-declared MEL, following the profile of the MEL for the Settlement Period.
1. Where there has been an Offer Accepted, then the FPN should be compared to the MIL;
2. Where the MIL is greater (i.e. less negative) than the FPN (and both are negative numbers (noting that MIL may be zero)), then:
 - c. Where the MIL was re-declared (from the timestamp in the received file (CP921)) after the Bid – Offer Acceptance was made, then process the Bid – Offer Acceptance as normal;
 - d. Where the MIL was re-declared before the Bid – Offer Acceptance was made, then the FPN used for determining Bid – Offer Acceptance volumes (and QBS) should be adjusted to the re-declared MIL, following the profile of the MIL for the Settlement Period.

However, this is an example of the potential solution and other solutions may be identified.

Justification for Change *(mandatory by originator)*

Clearly the impact on the Settlement Calculations could be significant. However, if this amendment is to be

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progressed, then the justification for the amendment will be part of the assessment of the issue.	
Configurable Items Potentially Affected by Proposed Solution(s) <i>(optional by Originator)</i> SAA and BMRA software, and supporting documentation (User Requirements Specifications and supporting documentation).	
Impact on Core Industry Documents <i>(optional by originator)</i> The SAA and BMRA Service Descriptions will be impacted by the amendments to the processing of Bid – Offer Acceptances, as will Section T of the Code (and potentially Section Q, depending on the solution progressed).	
Related Changes and/or Projects <i>(mandatory by BSCCo)</i> CP921 'Changes to Ensure Correct Processing of MIL / MEL Messages by BMRS' (v2.0) is being implemented in the June 2004 BSC Systems Release, and it seeks to address an anomaly in the way in which MIL and MEL data is received and processed by the BMRA. There is the potential for post Gate Closure re-declarations to be made that cross with the Gate Closure notification of data for the Settlement Period, due to the relative size of the files, and the source (pre Gate Closure comes from EDT, and post from EDL). Thus the post Gate Closure re-declaration can be subsequently overwritten by the pre Gate Closure value, as the BMRA is obliged (by the Code, Section V, Annex V-1) to publish the MIL / MEL data 'as received'. Furthermore, BMRA cannot publish data for part of a Settlement Period (a re-declaration) until data for the whole Settlement Period has been loaded. CP921 seeks to ensure that files are time and sequence stamped by the Transmission Company at the time the data was received from the Party so that they can be processed as received but applied correctly so that the correct net profile is displayed on the BMRA.	
Requested Implementation Date <i>(mandatory by originator)</i> Not Applicable. Reason: As a Modification would be required to make this change, the Implementation Date will be determined as part of any Assessment of the relevant Modification Proposal.	
Agreed Release/Implementation Date <i>(mandatory by BSCCo)</i>	
Originator's Details: BCA NameMandi Francis..... OrganisationELEXON..... Email Addressmandi.francis@elexon.co.uk.....	

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Date.....14/04/04.....	
Attachments: N* (If Yes, No. of Pages attached:.....) <i>(delete as appropriate)</i>	