

NETA Change Form

Title		Version No.
P211 Alternative - Main imbalance price based on ex-post unconstrained schedule		0.4
		LogicaCMG Reference
		ICR826
ELEXON Reference	Date CP Received	Date IA Issued
P211 Alternative	13 th July 2007	14 th August 2007
LogicaCMG Contact Name	Baseline for Impact Assessment	
	P211AS10_Alternative.pdf v1.0 dated 27 th July 2007	
Price Breakdown		
Item description	Remarks	Price (ex VAT)
Change Costs	Settlement Calculation with:	
	SAA Reporting Reduced Option Or SAA Reporting Detailed Option Dynamic Data Option (Optional must be ordered with one of the above) BMRA Reporting (Optional must be ordered with the above): BMRA Reporting Simple Option Or BMRA Reporting Detailed Option	£ 61,400 £ 64,800 £ 2,150 £ 15,000 £ 18,650
Testing (Specification and Running)	Settlement Calculation with:	
	SAA Reporting Reduced Option Or SAA Reporting Detailed Option Dynamic Data Option (Optional must be ordered with one of the above) BMRA Reporting (Optional must be ordered with the above): BMRA Reporting Simple Option Or BMRA Reporting Detailed Option	£ 85,000 £ 85,000 £ 0 £ 8,250 £ 8,250

Release Costs	<p>Settlement Calculation with:</p> <p>SAA Reporting Reduced Option Or SAA Reporting Detailed Option Dynamic Data Option (Optional must be ordered with one of the above)</p> <p>BMRA Reporting (Optional must be ordered with the above):</p> <p>BMRA Reporting Simple Option Or BMRA Reporting Detailed Option</p>	<p>£ 50,600 £ 50,600 £ 0</p> <p>£ 1,250 £ 1,250</p>
Implementation of measures to address Performance Implications	<p>SAA Reporting Reduced Option SAA Reporting Detailed Option</p>	<p>£ 23,000 £ 25,300</p>
Total Price (ex VAT)	<p>Settlement Calculation with:</p> <p>SAA Reporting Reduced Option Or SAA Reporting Detailed Option Dynamic Data Option (Optional must be ordered with one of the above)</p> <p>BMRA Reporting (Optional must be ordered with the above):</p> <p>BMRA Reporting Simple Option Or BMRA Reporting Detailed Option</p>	<p>£ 220,000 £ 225,700 £ 2,150</p> <p>£ 24,500 £ 28,150</p>

Price Tolerance	0%
Justification for Price Tolerance	
**NOTE See "Any Other Information" section for details of additional porting costs **	

Project Duration	26 weeks
Cut Off Date for Inclusion in Specified Release (if applicable)	
All prices assume Nov'08 Release is the target for this change.	

Operational Price (e.g. per annum or event) (ex VAT)	£0
Rationale	
N/A	

Annual Maintenance Price (ex VAT)	£0
Rationale	
The Annual Maintenance Price is zero under the agreement commencing on 1 January 2005.	

Validity Constraints	
<ul style="list-style-type: none"> • Price and duration assume that this change is developed in isolation and the effects of other changes are excluded. • No allowance is included for the final solution being different from the baseline. • No allowance is included for supporting Release Audit activities. Any effort will be charged at contracted T&M rates • No allowance is included for supporting ELEXON assurance activities. Any effort will be charged at contracted T&M rates • No allowance is included for End to End/Participant Testing activities. Any effort will be charged at contracted T&M rates • No allowance is included for Walkthrough activities. Any effort will be charged at contracted T&M rates • No allowance is included to support ELEXON in parallel run testing activities <p>The validity period for this assessment is 30 days and is based on the following payment schedule:</p> <ul style="list-style-type: none"> • LogicaCMG will invoice 30% on receipt of Purchase Order or authorised start of work, 30% on completion of first build phase, 30% on live implementation and 10% on successful completion of the Success Criteria or one month after live implementation, whichever is sooner. 	
Authorised Signature	Date Signed

Requirements and Solution

Brief Summary of Change

Alternative Modification P211, like the Proposed Modification, seeks to amend the calculation of the “main” imbalance price such that when the market is short ($NIV > 0$), System Buy Price (SBP) will be based on the least expensive Offers that the System Operator (SO) could have utilised on an unconstrained system. Conversely, when the market is long ($NIV < 0$), System Sell Price (SSP) will be based on the least expensive Bids that the SO could have utilised on an unconstrained system. Additionally, **the Alternative applies a set of rules (including dynamic parameters) to the Bid and Offer volumes that make up the Ex-Post-Unconstrained Schedule stack to better reflect what Bid and Offer volumes are actually available to the System Operator. As for the Proposed Modification,** Arbitrage, NIV and PAR Tagging would then be applied to the new price stack to ensure that only the most expensive 500 MWh of Bids or Offers are used to set the main price. The ‘reverse’ price would remain unchanged.

LogicaCMG’s Proposed Solution

This modification impacts the Settlement Calculation (SAA/BMRA), the SAA Settlement Report (SAA-I014), and BMRA Settlement Reporting (Web).

Settlement Calculation

Overview

The BMRA and SAA Settlement Calculation will be modified so that the calculation of the Main Price is derived using the Ex-Post Unconstrained Schedule (EPUS) for P211 effective Settlement Dates. The volumes used to populate the EPUS stack will be derived by applying MIL/MEL, RUR/RDR, SIL/SEL and NDZ data to BM Unit BOP and FPN values as determined by a number of defined processing rules.

Required Work

- Expand BMRA and SAA Settlement data checking functions to include MIL/MEL, RUR/RDR, SIL/SEL or NDZ data.
- Define a new database tables to hold EPUS Stack data.
- Modify the existing F009 functionality so that it applies the P211 methodology to P211 effective Settlement Dates.

SAA Settlement Reporting – Reduced (I014)

Overview

A new DTC version of the SAA-I014 flow will be defined. The SAA-I014 module will be modified so that for P211 effective Settlement Dates additional data reporting will be included in the report. Where a Bid-Offer Pair has associated DAOV or DABV data defined by the F009 Settlement Calculation Process then this data will be reported against the Bid-Offer Pair. DAOV or DABV data derived in relation to SIL/SEL will be reported against the associated BM Unit at the BMU level (rather than BOP level). For each reported DAOV or DABV item the following values will be reported:

- Initial EPUS Stack volume (i.e. value prior to Arbitrage, NIV and PAR tagging);
- PAR untagged volume (i.e. value going forward to Main Price calculation)

Some existing fields will not be reported for post-P211 dates as they will no longer be relevant.

Required Work

- Modify the SAA-I014 report module.

SAA Settlement Reporting – Detailed (I014)**Overview**

A new DTC version of the SAA-I014 flow will be defined. The SAA-I014 module will be modified so that for P211 effective Settlement Dates additional data reporting will be included in the report. Where a Bid-Offer Pair has associated DAOV or DABV data defined by the F009 Settlement Calculation Process then this data will be reported against the Bid-Offer Pair. DAOV or DABV data derived in relation to SIL/SEL will be reported against the associated BM Unit at the BMU level (rather than BOP level). For each reported DAOV or DABV item the following values will be reported:

- Initial volume (taking into account the impact of MIL/MEL);
- Volume excluded by dynamic parameter rules 1-4;
- Arbitrage Tagged Volume;
- NIV Tagged Volume;
- PAR Tagged Volume;

For SIL/SEL related volumes the following values will be reported:

- Price;
- Initial volume;
- Arbitrage Tagged Volume;
- NIV Tagged Volume;
- PAR Tagged Volume;

Some existing fields will not be reported for post-P211 dates as they will no longer be relevant.

Required Work

- Modify the SAA-I014 report module.

SAA Settlement Reporting – Dynamic Data (I014) (Optional must be ordered with either above options)

The dynamic data (SIL/SEL, RUR/RDR, NDZ) used to generate the Main Price is not currently reported in the SAA Settlement Report. Though this data is available to Participants via the BMRS this interface has the disadvantage that it is updated dynamically to reflect the latest data received and so it may, at times, differ from the data used at the time that the calculation was carried out. By including the dynamic data in the Settlement report participants will always know exactly what data was used in the calculation.

The dynamic data would be added to the report at the same level as the currently included MIL/MEL data and in a similar fashion – each data type would have its own reporting group which would sit within the BM Unit Period Information group.

For RUR/RDR and NDZ a single set of values will be reported. These will be the value which was valid at the point at which the data was applied (e.g. Gate Closure). Because the SIL/SEL data can vary over a Settlement Period this data will be reported as values with associated effective time ranges.

BMRA Settlement Reporting – Simple (optional)**Overview**

The Derived Data web page will be modified on the BMRS to include an additional table that reports DAOV and DABV (both BOP and SIL/SEL related volumes) for a given BM Unit on a given Settlement Period. This will be done for both the Latest (both High Grade and Low Grade) and the Historical pages. The associated CSV and Tibco functions will also be updated to reflect this change. Only the final (post PAR tagging) untagged volume value will be reported for each item in the Main EPUS Stack – i.e. the values used in the calculation of the Main Price.

Required Work

- Modify the Derived Data web page and associated functions.

BMRA Settlement Reporting – Detailed (optional)**Overview**

The Derived Data web page will be modified on the BMRS to include an additional table that reports details of the volume data on the EPUS Main Stack for a given BM Unit on a given Settlement Period. The following details will be reported:

- Data Type (BOP, SIL/SEL);
- BOP Number (where relevant);
- Price (while BOP Price is report elsewhere the SIL/SEL volume's price is not);
- Initial Volume (only relevant to BOP items);
- Volume excluded by dynamic parameter rules 1-4;
- Arbitrage Tagged Volume;
- NIV Tagged Volume;
- PAR Tagged Volume;

This will be done for both the Latest (both High Grade and Low Grade) and the Historical pages. The associated CSV and Tibco functions will also be updated to reflect this change. Note that Energy BSAD details will not be reported here.

Required Work

- Modify the Derived Data web page and associated functions.

Performance Issue

The increase in processing load generated by the addition of the very complex functionality required to implement this modification, means that some costs will need to be incurred to implement measures, to address the performance implications on the SAA system. We don't believe that we will need to carry out performance improvements on BMRA because the increase in processing load on BMRA is offset by the fact that:

1. BMRA only processes a single Settlement Period at a time so the impact is 1/48th of that on SAA;
2. The removal of CADL from the Calculation will allow us to schedule the process earlier in the Settlement Period giving us more time to complete while remaining within the defined SLAs.

Deviation from ELEXON's Solution / Requirements

Operational Solution and Impact					
<p>There will be potential impact on the Settlement Calculations schedule in that:</p> <ul style="list-style-type: none"> In SAA we may potentially be in a position where the required number of runs will not be processed due to each settlement run taking longer than at present. This will be mitigated as detailed above. As for BMRA, the extension of Settlement Calculation times is mitigated against, by moving the calculation start times. <p>There is another potential problem in that the data types (FPN, BOD, BOP, SIL, SEL etc) we receive from National Grid may need correcting manually if there is an outage or Trading Dispute. This modification increases the number of data types, whose reliability of these new data types can not be accurately assessed. This may require additional notice of change to address this.</p>					
Testing Strategy					
Unit	X	Change Specific	X	End to End	
Module	X	Operational Acceptance	X	Participant Testing	
System	X	Performance		Parallel Running	
Regression	X	Volume		Deployment/ Backout	X
Other:					
Validated Assumptions					
<p>The following assumption has been made for this assessment:</p> <ul style="list-style-type: none"> Where insufficient MIL/MEL data is present then the Settlement Calculation will terminate early with an error. Details of the missing data will be reported by the process so that action can be carried out to try and resolve the situation. In the case of BMRA then that Settlement Period's Indicative Calculation may well be aborted entirely if the data is not available within the short time window that will allow the process to complete without impacted on later Settlement Period processing, as per current operational procedures. Where insufficient RUR/RDR, SIL/SEL or NDZ data is present then the Settlement Calculation will use a default value of zero in place of any missing data. Note: The only situation where this is likely to occur is when a new BM Unit is registered. <p>The prices for this change are based on a target release of Nov'08 on Tru-64 and Oracle 9i (Also this would mean the CVA Port and Migrate coding phase had completed before this change starts).</p>					
Outstanding Issues					
None					

Changes to Service							
Services Impacted							
	BMRA	CDCA	CRA	ECVAA	SAA	TAA	Other
Software	X				X		
IDD Part 1 (Docs)	X				X		
IDD Part 1 (S'Sheet)					X		
IDD Part 2 (Docs)					X		
IDD Part 2 (S'Sheet)					X		
URS	X				X		
SS	X				X		
DS	X				X		
MSS							
OSM							
LWIs							
RTP	None						
Comms	None						
Other	None						
Nature of Documentation Changes							
<p>The following Documentation changes will be necessary for this assessment:</p> <p><u>Settlement Calculation</u> BMRA – System Specification, Design Specification. SAA – User Requirement Specification, System Specification, Design Specification.</p> <p><u>SAA Settlement Reporting (I014)</u> SAA – User Requirement Specification, System Specification, Design Specification. IDD Part 1 – Document and Spreadsheet. IDD Part 2 – Document and Spreadsheet.</p> <p><u>BMRA Settlement Reporting (optional)</u> BMRA – User Requirement Specification (new flow), System Specification, Design Specification. IDD Part 1 – Document.</p>							
Nature / Size of System Changes							
N/A							
Deployment Issues, e.g. Outage Requirements:					None		
Impact on Service Levels:					None		
Impact on System Performance:					Please see LogicaCMG Proposed Solution section for details.		

Responsibilities of ELEXON
Within reasonable levels, ELEXON will make available appropriate staff to assist LogicaCMG during the development of this change.
Acceptance Criteria
This is covered by the acceptance criterion 2 in the "CVA Program – Release Acceptance Criteria" document for the Feb03 Release.
Any Other Information
<p>We have assumed a November 2008 target release for these costings. This means delivery under the current hardware baseline (Tru-64 and Oracle 9i) and thus would require an additional activity to port. Migrate and test the changes on the new hardware baseline (HP-UX and Oracle 10g).</p> <p>The Testing for a HP-UX and Oracle 10g environment would be a repeat run of the testing scope quoted in this assessment.</p> <p>The release costs for the HP-UX ported Oracle 10g upgrade (including OAT, Deployment Testing and deployment) are non-determinable at this time as no decisions have been made about the Operate and Host supplier for this period (and their relative responsibilities for a release onto the live environment). If LogicaCMG were the Operate and Host supplier we would be able to reduce the release costs from those quoted above due to documentation similarities.</p>
Attachments
None