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**MP2 Requirements Specification -
Revision of the Methodology for
Assessing Credit Indebtedness**

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d Changes Forecast

None.

e Related Documents

Reference 1 Modification Proposal P2 - Revision of the Methodology for Assessing Credit Indebtedness

Reference 2 Definition Report – Modification Proposal P2 – Revision of the Methodology for Assessing Credit Indebtedness, 24th May 2001 (MDR02)

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1 INTRODUCTION

1.1 Background and Scope

Modification Proposal P2 (Reference 1) was submitted by British Gas on 27th March 2001, and proposes that the calculation of indebtedness for credit-checking purposes should be enhanced to use actual prices and metered volumes. The proposal stated that this would protect Parties from the expense of having to post inappropriate levels of credit cover, and also the risk of a defaulting Party having unsecured settlement liabilities.

The BSC Panel meeting on 5th April 2001 agreed that Modification Proposal P2 should be submitted to the Definition Procedure (as defined in section F2.5 of the Balancing and Settlement Code). This Definition Procedure was carried out by the Credit Modification Group, and resulted in the presentation of a Definition Report (Reference 2) to the BSC Panel meeting on 31st May 2001. This report estimated the materiality of the issues raised by Modification Proposal P2, and identified a number of Alternative Modification Proposals that might also address those issues.

At the meeting on 31st May, the BSC Panel approved the Definition Report, and noted the findings of the Modification Group, namely that Trading Parties are being exposed to significant risks and costs as a result of inaccuracies in the current credit-checking methodology. The BSC Panel also authorised further consultation and assessment as part of the Assessment Procedure.

On 20th June 2001, the Credit Modification Group met to consider further the Alternative Modification Proposals identified in the Definition Report, and agreed that two solutions should be taken forward for consultation and assessment:

- Modification Proposal P2 itself. Under this option, indebtedness for Settlement Periods for which the Interim Information run has taken place should take into account all Trading Charges (i.e. energy imbalance charges, information imbalance charges, BM payments, Non-Delivery charges and Residual Cashflow Reallocation Cashflow), based on actual CVA metered volumes, and estimated SVA metered volumes. For Settlement Periods for which the Interim Information run has not taken place, indebtedness should be calculated as currently. Section 2 of the document explains this option in more detail.
- An Alternative Modification Proposal¹. Under this option, indebtedness for Settlement Periods for which the Interim Information run has taken place should be calculated in the same way as for Modification Proposal P2. However, for Settlement Periods for which the Interim Information run has not taken place, indebtedness should be calculated using average metered volumes from SAA, rather than CALF-based estimates as currently. Section 3 of the document explains this option in more detail.

The scope of this document is therefore restricted to these two possible solutions to the issues raised in Modification Proposal P2. Note that either of the two solutions would require changes to the Energy Contract Volume Aggregation Agent (ECVAA) and Settlement Administration Agent (SAA) services.

¹ As explained in section 3 of the document, this Alternative Modification Proposal was devised by the Modification Group at the meeting on 20th June, and is not one of those described in the P2 Definition Report (Reference 2). It can however be regarded as a variant on "Option A", as defined in the report.

1.2 Purpose and Structure of Document

The purpose of this document is to specify Modification Proposal P2 (and the Alternative Modification Proposal) in sufficient detail to:

- Allow the Logica Consortium to provide an assessment of the cost and elapsed time required to implement Modification Proposal P2, as described in section 3 of this document.
- Allow the Logica Consortium to provide an assessment of the additional cost and elapsed time required to implement the Alternative Modification Proposal, as described in section 4 of this document.
- Allow the Logica Consortium to propose a testing strategy for the changes.
- Allow BSC Parties to assess the impact of each option on their own systems.

The results of this assessment process will then be considered by the Credit Modification Group, and reflected in the Assessment Report prepared by the Group for the BSC Panel.

For the purposes of this assessment, the Logica Consortium should assume that the required changes (for P2, or the Alternative Modification Proposal, as the case may be) would be implemented as a standalone development project managed by ELEXON.

The document is structured as follows:

- Section 2 provides an overview of the two options.
- Section 3 specifies in detail the required functionality for the first option i.e. Modification Proposal P2 itself.
- Section 4 specifies in detail the required functionality for the second option i.e. the Alternative Modification Proposal.
- Section 5 specifies ELEXON's requirements for involvement in the design and testing process.

1.3 Glossary

The following acronyms have been used throughout this document:

BSC	Balancing and Settlement Code
ECVAA	Energy Contract Volume Aggregation Agent
MVRN	Metered Volume Reallocation Notification
SAA	Settlement Administration Agent
URS	User Requirements Specification

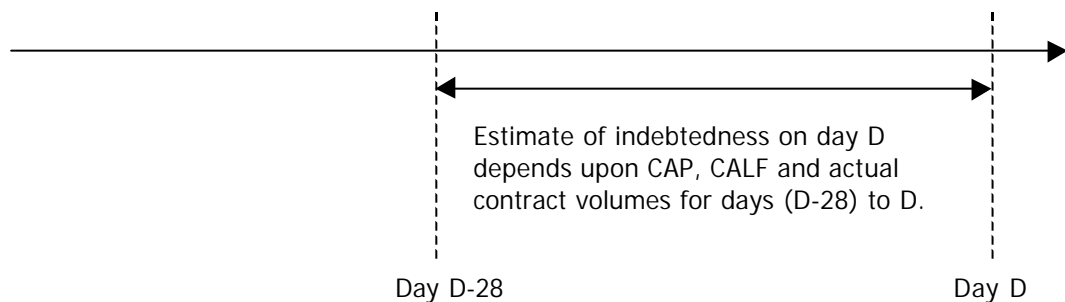
2 OVERVIEW OF TWO OPTIONS

This section of the document provides an overview of the current methodology for assessing credit indebtedness; the changes to the methodology for Modification Proposal P2; and the changes to the methodology for the Alternative Modification Proposal.

This section of the document is provided for information only, in order to provide background and explanation to the detailed changes described in sections 3 and 4. It does not require impact assessment by the Logica Consortium, as all the required changes to systems are fully described in sections 3 and 4.

2.1 Current Methodology for Assessing Credit Indebtedness

Under the current methodology, credit indebtedness for each Settlement Period in the 29-day credit period is assessed by applying a Credit Assessment Price (CAP) to the difference between actual contract volumes and estimated metered volumes. These estimated metered volumes are calculated using a Credit Assessment Load Factor, and are therefore constant (for a given BM Unit) over a whole BSC Season. This is illustrated in the following diagram, which illustrates the basis on which indebtedness is estimated on a given day D:



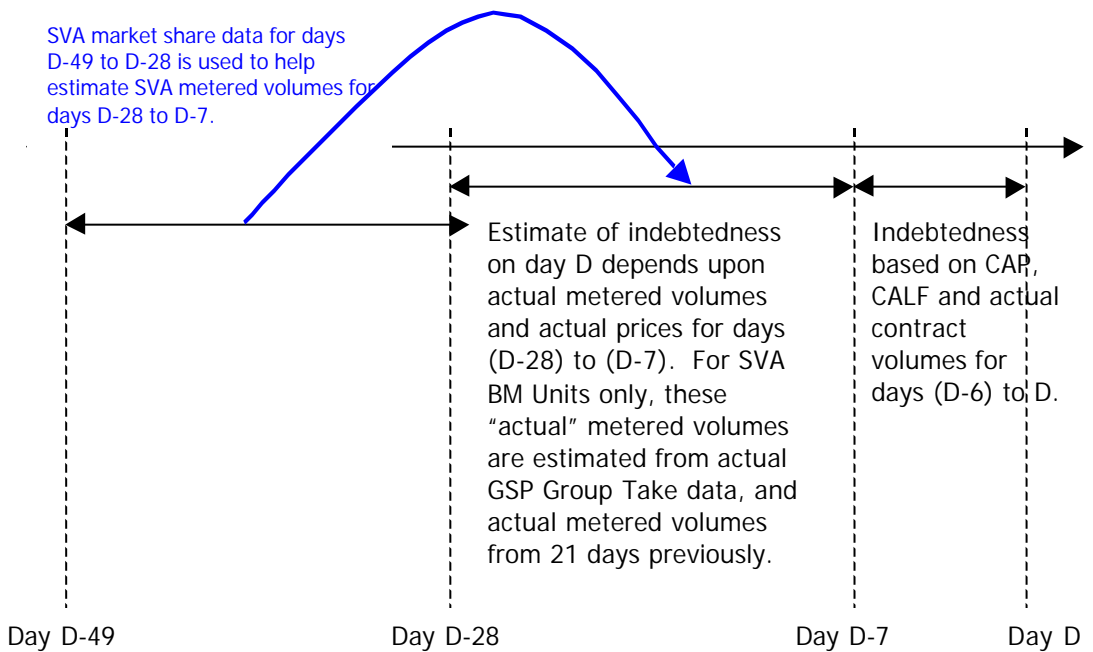
The weakness of this methodology is that the estimate of indebtedness does not make any allowance for the actual prices or actual metered volumes in the 29-day credit period.

2.2 Modification Proposal P2

Modification Proposal P2 seeks to improve the accuracy of the credit-checking process by using actual prices and metered volumes once they become available (with CAP continuing to be used in the meantime). This proposal was further clarified during the P2 Definition Procedure, and at the Modification Group meeting on 20th June:

- In order to ensure accurate calculation of indebtedness, credit-checking should take into account not just Energy Imbalance charges, but also all the other Trading Charges calculated by the SAA system i.e. Residual Cashflow Reallocation Cashflow, BM Unit Cashflow, Non-Delivery Charges and Information Imbalances.
- Clearly it is not desirable to build a new system to calculate all of these Trading Charges. It is therefore proposed to use the SAA Interim Information run for this purpose i.e. indebtedness will be based on Trading Charges calculated by SAA for that portion of the 29-day credit period for which an Interim Information run has been performed. For the remainder of the 29-day credit period, indebtedness will be estimated on the basis of CAP and CALF as currently.

- Using Trading Charges calculated by SAA ensures that indebtedness is calculated using actual price data, and actual metered volumes for CVA BM Units. However, it doesn't address the problem of metered volumes for Supplier BM Units (which aren't available until the Initial Settlement run). It is proposed to solve this issue by enhancing the SAA software to estimate metered volumes for Supplier BM Units in the Interim Information run. This will be done by apportioning the GSP Group Take for day D between Supplier BM Units in proportion to their market share on a recent comparable day for which data is available.
- The Modification Group meeting on 20th June discussed a number of options for what should constitute a "recent comparable day". The recommendation of the meeting was that the GSP Group Take should be apportioned between BM Units in proportion to their market share on the most recent Settlement Day which is a whole number of weeks ago (to allow for metered volumes varying by day of the week), and for which Initial Settlement has been performed. Given that SAA typically performs the Interim Information run 5 Working Days after the event, and the Initial Settlement run 16 Working Days after the event, this means that SVA metered volumes for Day D will typically be estimated using data from three weeks ago (calendar day D-21):



Under this methodology, indebtedness is calculated using the best estimates available for that part of the credit period which has had an Interim Information run (i.e. D-28 to D-7 approximately). For the remainder of the credit period (i.e. D-6 to D approximately), indebtedness is based on estimated prices and volumes, as currently. The following table summarises this:

Data Used to Calculate Indebtedness Under Modification Proposal P2		
	Days With Interim Information Data (i.e. D-28 to D-7)	Days Without Interim Information Data (i.e. D-6 to D)
Price Used to Estimate Energy Imbalance	Actual SSP/SBP	Credit Assessment Price

Data Used to Calculate Indebtedness Under Modification Proposal P2		
	Days With Interim Information Data (i.e. D-28 to D-7)	Days Without Interim Information Data (i.e. D-6 to D)
Contract Volume Used to Estimate Energy Imbalance	Actual Contract Volumes	Actual Contract Volumes
Metered Volume Used to Estimate Energy Imbalance	CVA – actual metered volumes SVA – estimated volumes (derived from GSP Group Take, and actual market share 21 days previously)	CALF-based estimate (i.e. BMCAEC _i or BMCAIC _i)
Method Used to Estimate Other Trading Charges	Trading Charges calculated directly by SAA	None (although arguably the Panel can take these other charges into account when setting CAP)

For the avoidance of doubt, it is **not** proposed to use data from Initial Settlement in the credit-checking process. Only at the Interim Information stage will Trading Charge data be passed from SAA to ECVAA.

2.2.1 Impact of P2 on ECVAA and SAA Systems

There are potentially a number of different ways in which Modification P2 could be implemented in the SAA and ECVAA systems, depending upon the level at which data is passed from SAA to ECVAA, and stored in the ECVAA database. Ultimately this is a design decision for the Logica Consortium, who are invited to make appropriate recommendations in assessing the Modification. However, one possible solution, which appears to ELEXON to minimise change to the existing design, would be as follows:

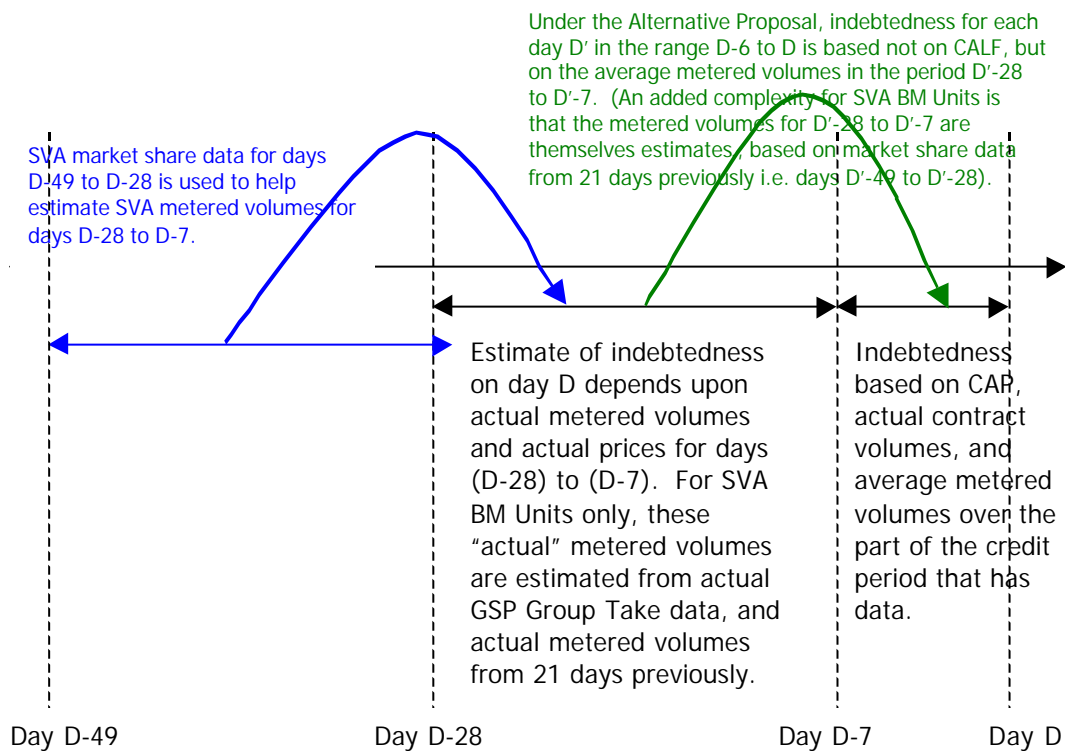
- SAA would be amended to estimate metered volumes for Supplier BM Units, and use these estimates in the Interim Information run, as described above².
- A new interface from the SAA Interim Information run to ECVAA would contain the total Trading Charges arising from that run for each BSC Party.
- ECVAA would be amended to load and store these SAA-provided daily indebtedness values (in addition to the daily indebtedness values calculated by ECVAA, which are already stored on the ECVAA database).
- The post-Gate Closure credit check currently sums 29 daily indebtedness values to derive a total indebtedness value. This summation process would be amended to use the SAA-provided values where available, and the ECVAA-calculated values for those days without SAA data.

² A side-effect of implementing Modification Proposal P2 would therefore be to increase the accuracy of the Trading Charges reported from the Interim Information run (e.g. Residual Cashflow Reallocation Cashflow).

2.3 Alternative Modification Proposal

The Alternative Modification Proposal refines Modification Proposal P2 as follows:

- For days which have had an Interim Information run (i.e. D-28 to D-7 approximately), indebtedness is calculated as for P2.
- For days which have not had an Interim Information run (i.e. D-6 to D approximately), indebtedness is still estimated using CAP. However, the metered volume is no longer estimated using CALF. Instead, the credit-checking process will estimate the metered volumes for each Settlement Period by calculating an average metered volume over that portion of the 29-day credit that has Interim Information data available:



It should be noted that this Alternative Modification Proposal was not described in the P2 Definition Report (Reference 2), but can be regarded as a variant of Alternative Proposal A, as defined in that report. Alternative Proposal A proposed that the indebtedness calculated for days D-28 to D-7 should be 'scaled up' to a full 29 days. The disadvantage of this proposal is that indebtedness for days D-6 to D is no longer based on actual contract volumes. The Alternative Modification Proposal defined in this document is intended to address this deficiency, by 'scaling up' metered volumes only.

The following table summarises how indebtedness is calculated under the Alternative Modification Proposal:

Data Used to Calculate Indebtedness Under the Alternative Modification Proposal		
	Days With Interim Information Data (i.e. D-28 to D-7)	Days Without Interim Information Data (i.e. D-6 to D)
Price Used to Estimate Energy Imbalance	Actual SSP/SBP	Credit Assessment Price
Contract Volume Used to Estimate Energy Imbalance	Actual Contract Volumes	Actual Contract Volumes
Metered Volume Used to Estimate Energy Imbalance	CVA – actual metered volumes SVA – estimated volumes (derived from GSP Group Take, and actual market share 21 days previously)	Average metered volume for that BM Unit over period D-28 to D-7
Method Used to Estimate Other Trading Charges	Trading Charges calculated directly by SAA	None (although arguably the Panel can take these other charges into account when setting CAP)

2.3.1 Handling of MVRN Under Alternative Modification Proposal

Under the current credit-checking methodology, the calculation of credit indebtedness for a Party in each Settlement Period accurately reflects any Metered Volume Reallocation Notification (MVRN) relevant to that Party (even though the BM Unit metered data to which the MVRN is applied is only an estimate). In order to maintain this level of accuracy, the metered data passed across from SAA to ECVAAs must be prior to the application of MVRNs, in order that ECVAAs can apply the MVRNs itself.

The accurate equations (as used by SAA) for applying MVRN to metered volumes are as follows:

$$QCE_{iaj} = \{(QM_{ij} - QBO_{ij}) * (QMPR_{iaj}/100) + QMFR_{iaj}\} * TLM_{ij} \quad (\text{Subsidiary Party})$$

$$QCE_{iAj} = (QM_{ij} * TLM_{ij}) - \sum_{a \neq A} QCE_{iaj} \quad (\text{Lead Party})$$

There are therefore a number of options for implementing MVRN under the Alternative Modification Proposal, depending upon the extent to which the full complexity of these equations needs to be reflected in ECVAAs.

Option A, the most accurate option, would be to pass average values of QM, QBO and TLM from SAA to ECVAAs, allowing the above equations to be implemented directly. This has the disadvantage of increasing the amount of data passed between SAA and ECVAAs, and the complexity of the equations in the ECVAAs system.

Option B, which would be less accurate, but significantly less complex, would be to pass a single average value of Credit Assessment Metered Volume (CAQM_{ij}) from SAA to ECVAAs, where CAQM is defined as follows:

$$CAQM_{ij} = (QM_{ij} - QBO_{ij}) * TLM_{ij}$$

and then use the following simplified equations:

$$QCE_{iaj} = CAQM_i * (QMPR_{iaj}/100) + QMFR_{iaj} \quad (\text{Subsidiary Party})$$

$$QCE_{iAj} = CAQM_i - \sum_{a \neq A} QCE_{iaj} \quad (\text{Lead Party})$$

This simplification introduces the following errors into the calculation (in addition to the fundamental inaccuracy that metered volumes are an average over the credit period, rather than the actual metered volume in each Settlement Period):

- i) The QCE_{iAj} values calculated for the Lead Party will not include Bid-Offer volumes
- ii) In calculating QCE_{iaj} values for Subsidiary Parties, any values of Metered Volume Fixed Reallocation ($QMPR_{iaj}$) will not have Transmission Losses applied to them.

The first of these disadvantages in particular could be material for some BM Units. For this reason, the detailed changes specified in section 4 of the document are based on Option C, which is of intermediate complexity. Under this option, average values are passed from SAA to ECVAA of Credit Assessment Metered Volume ($CAQM_{ij}$) and Credit Assessment Bid-Offer Volume ($CAQBO_{ij}$), defined as follows:

$$CAQM_{ij} = QM_{ij} * TLM_{ij}$$

$$CAQBO_{ij} = QBO_{ij} * TLM_{ij}$$

The average values can then be used in the following simplified equations:

$$QCE_{iaj} = (CAQM_i - CAQBO_i) * (QMPR_{iaj}/100) + QMFR_{iaj} \quad (\text{Subsidiary Party})$$

$$QCE_{iAj} = CAQM_i - \sum_{a \neq A} QCE_{iaj} \quad (\text{Lead Party})$$

2.3.2 Impact of Alternative Modification Proposal on ECVAA and SAA Systems

There are potentially a number of different ways in which the Alternative Modification Proposal could be implemented in the SAA and ECVAA systems, depending upon the level at which data is passed from SAA to ECVAA, and stored in the ECVAA database. Ultimately this is a design decision for the Logica Consortium, who are invited to make appropriate recommendations in assessing the Modification. However, one possible solution, which appears to ELEXON to minimise change to the existing design, would be to make the following changes (in addition to those required under P2):

- In addition to the data items required for P2, the interface from the SAA Interim Information run to ECVAA would contain the average values (over that Settlement Day) of ($QM_{ij} * TLM_{ij}$) and ($CAQBO_{ij} * TLM_{ij}$) for each BM Unit. (For Supplier BM Units, the QM_{ij} values in question would be those estimated using market share data from a previous day, as described in section 2.2 above.)
- When performing the post-Gate Closure credit check, the ECVAA system would retrieve these daily average values for each day in the 29-day credit period for which data was available, and average them again to obtain values of $CAQM_i$ and $CAQBO_i$ for use in calculating indebtedness in the half-hour.

2.4 Additional Reporting to BSC Parties

Both Modification Proposal P2 and the Alternative Modification Proposal change the methodology for assessing credit indebtedness, and it could therefore be argued that:

- BSC Parties would require additional information in order to confirm that their indebtedness had been calculated correctly by the ECVAAs system; and
- Therefore extra data items should be added to the Notification Report (ECVAA-I014).

On the other hand, some BSC Parties might feel that such extra reporting was not appropriate, for the following reasons:

- The new data items used to calculate indebtedness values are either already reported on the SAA-I014 Settlement Report, or can be derived from data on the SAA-I014 report.
- Changes to the format of the ECVAAs-I014 interface would impose additional costs on BSC Parties.

The following approach is therefore proposed for resolving this issue:

- BSC Parties are invited to include in their assessments their views on the additional reporting (if any) that would be appropriate under Modification Proposal P2 and/or the Alternative Modification Proposal. These views will then be considered by the Modification Group in writing the Assessment Report to the BSC Panel.
- The Logica Consortium should assume for the purposes of this assessment that no additional reporting to Parties is required. (Depending on the eventual recommendation of the Modification Group, a separate assessment of any such reporting requirements may be requested at a later date.)

3 OPTION 1 – MODIFICATION PROPOSAL P2

The changes required to the ECVAAs and SAAs services for Modification Proposal P2 are summarised in section 2.2 of this document. The purpose of this section 3 of the document is to specify the changes in detail, in order that they can be assessed by BSC Parties and BSC Agents. It is structured as follows:

- Section 3.1 describes the interface between SAA and ECVAAs.
- Section 3.2 describes the changes required to SAA to estimate metered volumes for Supplier BM Units.
- Section 3.3 describes the changes required to the ECVAAs credit-checking process.

3.1 New Interface from SAA Interim Information to ECVAAs

Under Modification Proposal P2, the calculation of indebtedness should be based on Trading Charges calculated by the Interim Information SAA run, rather than indebtedness values estimated by ECVAAs. There is therefore a requirement for total Trading Charges for each Party to be passed from SAA to ECVAAs, where the total Trading Charges are defined as Energy Imbalances plus Information Imbalances plus Non-Delivery Charges less BM Unit Cashflow less Residual Cashflow Reallocation Cashflow.

As noted in section 2.2.1, the detailed design of the interface from SAA to ECVAAs is a matter for the Logica Consortium, who are invited to make appropriate recommendations in their assessment. However, ELEXON propose that the following data would need to be included in the interface:

Interim Information Trading Charges

Settlement Date

SAA Run Number

BSC Party

BSC Party Id

Total Charges i.e. $CAEI_p + CII_p - CBM_p + CND_p - RCRC_p$

3.2 Estimation of SVA Metered Volumes

In order for the Interim Information SAA run to calculate Trading Charges that can be used for credit-checking purposes, meaningful estimates of SVA metered volumes will be required. The SAA process should therefore be enhanced to estimate these values as follows:

- Identify the most recent day D' which has the same day of the week as the Settlement Day D, and for which Initial Settlement has been performed. (Given the current settlement timetable, this is in practice likely to be the day 21 Calendar Days prior to day D.)
- For each Settlement Period j on day D, identify the corresponding Settlement Period j' on the previous day D'. This mapping process is entirely trivial (period 1 mapping to period 1, period 2 mapping to period 2, and so on), except in the case where the two days contain different numbers of Settlement Periods (due to a clock change on one of

the days). In this case, the mapping should use a simple and appropriate algorithm (e.g. the one used to apply 'ever-green' ECVN to a short or long day).

- For each Settlement Period j and Supplier BM Unit i , estimate the BM Unit Metered Volume QM_{ij} by apportioning the GSP Group Take in period j between Supplier BM Units in proportion to their Metered Volumes in the previous period j' :

$$QM_{ij} = GSPGT_{Hj} * QM_{ij'} / GSPGT_{Hj'}$$

where:

$GSPGT_{Hj}$ is the GSP Group Take in period j for the GSP Group H in which BM Unit i is registered; and

$QM_{ij'}$ and $GSPGT_{Hj'}$ are the values of the BM Unit Metered Demand and GSP Group Take in Settlement Period j' .

Note that:

- No specific processing is required to account for Bank Holidays i.e. volumes for a Bank Holiday Monday will be estimated in the same way as those for a working day. The Modification Group meeting on 20th June 2001 took the view that the level of inaccuracy this introduces is acceptable in the overall context of the indebtedness calculation.
- Because GSP Group Take is apportioned in proportion to market share three weeks before the Settlement Day, the estimated volumes for a newly-registered Supplier BM Unit will be zero for a period of three weeks after the first metering system is registered to it. The Modification Group meeting on 20th June 2001 took the view that the level of inaccuracy this introduces is acceptable in the overall context of the indebtedness calculation.
- The above processing should apply only to the Interim Information run (i.e. the SAA system should not allow these estimated volumes to be used in Initial Settlement or subsequent Reconciliation runs).

3.3 Change to Indebtedness Calculation

The changes required to the credit-checking process in ECVAA under Modification Proposal P2 can be summarised as follows:

- The calculation of Energy Indebtedness (E_{ipj}) should use the Trading Charges provided by SAA where available, and use Credit Assessment Energy Indebtedness (CE_{ipj}) only in those periods where Trading Charge data is not available.
- Because ECVAA calculates indebtedness in energy terms, and SAA provides Trading Charges in monetary values, ECVAA will have to convert the SAA-provided indebtedness values into purely notional energy values, by dividing through by Credit Assessment Price (CAP). (The Modification Group on 20th June 2001 did discuss the alternative of amending ECVAA to calculate indebtedness values in monetary terms rather than energy terms. However, the Group did not identify any material benefits that might justify the cost of the additional changes to ECVAA and FAA that this would require.)

As noted in section 2.2.1, the detailed design of the ECVAA system is a matter for the Logica Consortium, who are invited to make appropriate recommendations in their assessment. However, ELEXON propose that the following would be appropriate:

- A new data item, TOTAL TRADING CHARGES, should be added to the DAILY INDEBTEDNESS entity in the ECVAA database (in addition to the INDEBTEDNESS field which is already used to store ECVAA-calculated indebtedness values).
- A new file load process should be added to the ECVAA system, to populate the TOTAL TRADING CHARGES field with values from the SAA Interim Information interface file.
- When determining Total Indebtedness over the past 29 days, the ECVAA system should sum TOTAL TRADING CHARGES for those days which have a value, and INDEBTEDNESS for those days which don't.

4 OPTION 2 – ALTERNATIVE MODIFICATION PROPOSAL

The additional changes required to the ECVAA and SAA services for the Alternative Modification Proposal are summarised in section 2.3 of this document. The purpose of this section 4 of the document is to specify the changes in detail, in order that they can be assessed by BSC Parties and BSC Agents. It is structured as follows:

- Section 4.1 describes additional data required on the interface between SAA and ECVAA.
- Section 4.2 describes the additional changes required to the ECVAA credit-checking process.
- Under option 2, data items $BMCAIC_i$, $BMCAEC_i$ and $CALF_i$ will no longer be required, and the costs of operating the Trading Arrangements should therefore be reduced. Section 4.3 below describes the implications of this in more detail.

4.1 Interface from SAA Interim Information to ECVAA

Under option 2, the interface from SAA to ECVAA described in section 2.2 of this document must be enhanced to include the daily averages of $(QM_{ij} * TLM_{ij})$ and $(QBO_{ij} * TLM_{ij})$, as described in section 2.3.1 above.

As noted in section 2.3.2, the detailed design of the interface from SAA to ECVAA is a matter for the Logica Consortium, who are invited to make appropriate recommendations in their assessment. However, ELEXON propose that the following data would need to be included in the interface (in addition to that specified in section 3.1 above):

BM Unit Volumes

BM Unit Id

$\Sigma_j (QM_{ij} * TLM_{ij}) / (\text{number of periods in day})$

$\Sigma_j (QBO_{ij} * TLM_{ij}) / (\text{number of periods in day})$

For the purposes of this document, these two data items will be referred to as Daily Average Credit Assessment Metered Volume ($DACAQM_{id}$) and Daily Average Credit Assessment Bid-Offer Volume ($DACAQBO_{id}$) respectively:

$DACAQM_{id} = \Sigma_j (QM_{ij} * TLM_{ij}) / (\text{number of periods in day})$

$DACAQBO_{id} = \Sigma_j (QBO_{ij} * TLM_{ij}) / (\text{number of periods in day})$

4.2 Change to Indebtedness Calculation

In addition to the changes to ECVAA described in section 2.4, option 2 requires the following changes to the process that calculates Credited Energy Volume (QCE_{iaj})³ for each Settlement Period:

- The system should retrieve the values of $DACAQM_{id}$ and $DACAQBO_{id}$ for each day in the 29-day credit period for which data is available. These values should then be averaged over all the days to produce values of Credit Assessment Metered Volume ($CAQM_i$) and Credit Assessment Bid-Offer Volume ($CAQBO_i$):

³ The BSC refers to this data item as Credit Assessment Credited Energy Volume ($CAQCE_{iaj}$), to distinguish it from the QCE_{aj} value determined by the SAA. However, section 3.3 of this document uses the term QCE_{iaj} , for consistency with the ECVAA URS.

$$CAQM_i = \sum_d DACAQM_{id} / (\text{number of days with data available})$$

$$CAQBO_i = \sum_d DACAQBO_{id} / (\text{number of days with data available})$$

- These values of $CAQM_i$ and $CAQBO_i$ should then be used in the calculation of QCE_{iaj} (instead of $BMCAIC_i$ and $BMCAEC_i$ as currently), as follows:

For Subsidiary Accounts ($a <> A$) for Settlement Period j :

$$QCE_{iaj} = (CAQM_i - CAQBO_i) * (QMPR_{iaj}/100) + QMFR_{iaj}$$

For Lead Energy Accounts ($a=A$) for Settlement Period j :

$$QCE_{iAj} = CAQM_i - \sum_{a \neq A} QCE_{iaj}$$

As noted in section 2.3.2, the detailed design of the ECVA system is a matter for the Logica Consortium, who are invited to make appropriate recommendations in their assessment. However, ELEXON propose that the following would be appropriate:

- A new database table should be added to the ECVA system to hold values of $DACAQM_{id}$ and $DACAQBO_{id}$ for each BM Unit and Settlement Day. The process for loading the SAA Interim Information interface file should populate this table.
- The credit check process should average the available values of $DACAQM_{id}$ and $DACAQBO_{id}$ to derive $CAQM_i$ and $CAQBO_i$ values, and then use the values in the determination of QCE_{iaj} as described above.

4.3 Existing Processes No Longer Required

Under option 2, $BMCAIC_i$ and $BMCAEC_i$ are no longer used in credit-checking, which removes entirely the need for:

- Data items $BMCAIC_i$, $BMCAEC_i$, GC_i , DC_i and $CALF_i$; and
- The existing processes for maintaining these data items.

This simplification will presumably reduce significantly the costs of operating the Trading Arrangements, and the Logica Consortium is requested to include a separate assessment of this saving in their assessment of option 2.

There may also be some costs associated with the removal of these processes. However, the Logica Consortium is requested to include in the assessment only those changes that are genuinely necessary. For instance, it is presumably not necessary to remove data items $BMCAIC_i$, $BMCAEC_i$, GC_i , DC_i and $CALF_i$ from database and interface designs, as these data items can continue to be stored and reported, even though they will no longer be updated or used.

It should be noted that Generation Capacity (GC_i) and Demand Capacity (DC_i) may still be required for other purposes within the Trading Arrangements (e.g. determining whether a BM Unit is below the de minimis level for submission of FPN data to NGC). ELEXON will therefore consult (separately to this impact assessment) on whether data items GC_i and DC_i would still be required within the Balancing and Settlement Code under the Alternative Modification. However, for the purposes of this assessment, the Logica Consortium should assume that there is no requirement under the Alternative Modification Proposal to maintain values of GC_i and DC_i in the NETA central systems (e.g. CRA, ECVA, SAA).

4.4 Implementation Issues

As described in section 3.3 above, option 2 relies on data from SAA to calculate values of QCE_{iaj} . This would raise particular issues when the change was first implemented, and no SAA data had been loaded. The Logica Consortium is invited to include an appropriate solution to this issue in their assessment (e.g. a one-off load of data as part of the implementation process).

5 DEVELOPMENT PROCESS

For the purposes of this assessment, the Logica Consortium should assume that the changes will be implemented as a standalone development project managed by ELEXON.

Notwithstanding, ELEXON recognise that responsibility for design, testing and implementation of the ECVA system lies with the Logica Consortium, and in order to gain assurance that changes made are consistent with the requirements, ELEXON requires visibility of these processes. The following sections give an indication of the control points required during design, testing and implementation and are supplied to provide a basis on which the Logica Consortium can estimate.

5.1 Design

ELEXON intend that responsibility for the correctness of the design should remain with the Logica Consortium, but that ELEXON should have the opportunity to review it, and identify apparent inconsistencies with the requirements. The following processes are proposed to achieve this:

- ELEXON will review changes to the User Requirement Specifications (URS), and sign the document off once review comments have been addressed.
- ELEXON will review changes to the System Specification and Design Specification, and identify any evident inconsistencies with the URS, but will not sign off the documents.

5.2 Testing

ELEXON intend that responsibility for software testing should remain with the Logica Consortium, but that ELEXON should have some visibility of the process, in order to gain assurance that the integrity of Trading and Settlement is maintained. The following processes are proposed to achieve this:

- As part of the response to this document, the Logica Consortium will provide a statement of their proposed testing strategy. This statement will be reviewed by ELEXON, and should explain how the Logica Consortium will demonstrate that the changes are ready for live operation, and that there is no unplanned impact on pre-existing facilities.
- ELEXON will be provided for information with test plans, test scripts and other test documentation that they may request. ELEXON will review these documents, and identify any evident inconsistencies with the agreed testing strategy, but will not sign them off.
- ELEXON will have the option of witnessing appropriate elements of the Logica Consortium's testing.
- The Logica Consortium will provide ELEXON with a test report, summarising the testing carried out, and the results of those tests. The report will also describe any defects found during testing, and the steps taken to resolve them.

5.3 Implementation

ELEXON anticipate the following interaction with the Logica Consortium's implementation process:

- As part of the impact assessment of this document, the Logica Consortium will provide a high-level statement of their proposed implementation approach (describing, for example, whether a phased approach is proposed). ELEXON will review and sign off this high-level implementation strategy.
- Implementation date(s) for the changes described in this document will be agreed in advance by ELEXON and the Logica Consortium.