December 2001

MODIFICATION REPORT

MODIFICATION PROPOSAL P40 – CALCULATION OF NEGATIVE ESTIMATES OF ANNUAL CONSUMPTION (EAC)

Prepared by ELEXON on behalf of the Balancing and Settlement Code Panel

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I DOCUMENT CONTROL

a Authorities

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The Gas and Electricity Markets Authority	Ofgem
Each BSC Panel Member	Various
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1 SUMMARY AND RECOMMENDATIONS

1.1 Recommendation

On the basis of the analysis, consultation and assessment undertaken in respect of this Modification Proposal during the Assessment Phase, and the resultant findings of this report, the BSC Panel recommends to the Authority that:

- **Modification Proposal P40 should be rejected.**

1.2 Background

Modification Proposal P40 'Calculation of Negative Estimates of Annual Consumption (EACs)' was submitted on 25th September 2001 by SEEBOARD. The Modification Proposal seeks to preclude the ability for an EAC (Estimated Annual Consumption) to be calculated as a negative value. These negative EACs result from negative Annualised Advances (AAs), which may occur from either an erroneously large previous AA or as a result of an undetected meter rollover.

On 18th October 2001 the BSC Panel reviewed the Initial Written Assessment of Modification Proposal P40 prepared by ELEXON, and agreed that the Proposal should be submitted to the Volume Allocation Modification Group under the Assessment Procedure (as described in section F2.6 of the Balancing and Settlement Code). In the course of the Assessment Procedure, the Modification Group issued for consultation both the Modification Proposal itself, and a paper describing the issues it raises.

The majority of the consultation responses received were in favour of Modification Proposal P40. However, after considering the responses and analysing the issues raised, the Modification Group concluded that Modification Proposal P40 would not better facilitate achievement of the Applicable BSC Objectives.

On 13th December 2001 the BSC Panel considered the Assessment Report prepared by the Modification Group, and agreed with its recommendation that Modification Proposal P40 should be rejected. This Modification Report should be read in conjunction with the Assessment Report, which can be found on the BSC website at www.elexon.co.uk.

1.3 Rationale for Recommendations

The rationale for the Panel's recommendation is stated in section 6 of this report. In summary, the Panel agreed with the findings of the Volume Allocation Modification Group that:

- Where a negative EAC value occurs, either the previous or the subsequent EAC will typically be too large, and these two values can compensate for each other. Removing only one of them runs the risk of introducing a systematic distortion into the (uncorrected) Non Half Hourly energy values entering settlement. This may hinder effective competition in the supply of electricity.
- The actual effect on the accuracy of settlement and Distribution Use of System (DUoS) billing is very limited, with any inaccuracies being resolved through the mechanism of Reconciliation. The costs of changing Non Half Hourly Data Collector software to implement the Modification Proposal would therefore outweigh the benefits.

A number of Panel Members also believed that Modification Proposal P40 was seeking to address the symptoms of poor data quality, and that it was more appropriate to address the underlying causes through appropriate performance assurance techniques.

2 INTRODUCTION

This Report has been prepared by ELEXON Ltd., on behalf of the Balancing and Settlement Code Panel ('the Panel'), in accordance with the terms of the Balancing and Settlement Code ('BSC'). The BSC is the legal document containing the rules of the balancing mechanism and imbalance settlement process and related governance provisions. ELEXON is the company that performs the role and functions of the BSCCo, as defined in the BSC.

This Modification Report is addressed and furnished to the Gas and Electricity Markets Authority ('the Authority') and none of the facts, opinions or statements contained herein may be relied upon by any other person.

An electronic copy of this document can be found on the BSC website, at www.elexon.co.uk

3 PURPOSE AND SCOPE OF THE REPORT

BSC Section F sets out the procedures for progressing proposals to amend the BSC (known as 'Modification Proposals'. These include procedures for proposing, consulting on, developing, evaluating and reporting to the Authority on potential modifications.

The BSC Panel is charged with supervising and implementing the modification procedures. ELEXON provides the secretariat and other advice, support and resource required by the Panel for this purpose. In addition, if a modification to the Code is approved or directed by the Authority, ELEXON is responsible for overseeing the implementation of that amendment (including any consequential changes to systems, procedures and documentation).

A Modification Report must be prepared and submitted to the Authority in respect of each proposed modification and must contain:

(a) The recommendation of the Panel as to whether or not the Proposed Modification or any Alternative Modification should be made;

(b) The proposed Implementation Date for implementation of the Proposed Modification or any Alternative Modification;

(c) The matters set out in Annex F-1 of the BSC. This will usually be in the form of the relevant Assessment Report where the Proposal has been submitted to a Modification Group prior to the Report Phase;

(d) An explanation of the Panel's rationale should the Panel form a different view of any matters contained in the Modification Group Report; and

(e) A summary of the representations made by Parties and interested third parties during the consultation undertaken in respect of the Proposed Modification and any Alternative Modification.

4 HISTORY OF PROPOSED MODIFICATION

Modification Proposal P40 'Calculation of Negative Estimates of Annual Consumption (EACs)' was submitted on 25th September 2001 by SEEBOARD. The Modification Proposal seeks to preclude the ability for an EAC (Estimated Annual Consumption) to be calculated as a negative value. These negative EACs result from negative Annualised Advances (AAs), which may occur from either an erroneously large previous AA or as a result of an undetected meter rollover.

At its meeting on 18th October 2001, the Panel reviewed the Initial Written Assessment of Modification Proposal P40 prepared by ELEXON, and agreed that the Proposal should be submitted to the Volume Allocation Modification Group under the Assessment Procedure, as described in section F2.6 of the Balancing and Settlement Code. (A copy of the Modification Proposal and of the Initial Written Assessment can be found on the BSC website at www.elexon.co.uk).

The Modification Group met on 25th October 2001, and agreed to issue a paper on the issues raised by Modification Proposal P40 for consultation and impact assessment by Parties and Party Agents. The deadline for consultation and impact assessment responses was 19th November 2001, and the Modification Group met on 22nd November 2001 to discuss the responses.

The majority of the consultation responses received were in favour of Modification Proposal P40. However, after considering the responses and analysing the issues raised, the Modification Group concluded that Modification Proposal P40 would not better facilitate achievement of the Applicable BSC Objectives. The Assessment Report presented to the Panel therefore recommended that Modification Proposal P40 should be rejected.

The Modification Group also considered a number of other possible solutions to the issues raised by Modification Proposal P40, but concluded that none of them would better facilitate achievement of the Applicable BSC Objectives. Therefore they did not identify an Alternative Modification.

At its meeting on 13th December 2001, the Panel considered the Assessment Report prepared by the Modification Group, and agreed with its recommendation that Modification Proposal P40 should be rejected. Section 6 of this report describes the rationale for this recommendation.

5 DESCRIPTION OF PROPOSED MODIFICATION

5.1 Current Process for Calculating EAC/AA Values

Annex S-2 of the BSC specifies that each Non Half Hourly meter advance processed for settlement purposes should be converted into two separate estimates of annualised consumption:

- The Annualised Advance (AA) is used for settling those Settlement Days that fall within the period of the meter advance. It is derived by 'scaling up' the meter advance value to reflect consumption over a typical year.
- The Estimated Annual Consumption (EAC) is used to settle Settlement Days after the end of the Meter Advance Period (until such time as the next meter advance enters the settlement process).

The EAC value is intended to take into account the Annualised Advance value, but with an additional element of 'smoothing' to limit the extent to which a single AA value (which may not be representative of the customer's typical demand level) can affect the forward-looking EAC value.

5.2 Negative EAC Values

It is not possible for an EAC value to become negative unless one or more meter advance values for that register are themselves negative, and the underlying causes of negative EAC values are therefore the same as those of negative meter advances. The Modification Group agreed that these underlying causes could usefully be divided into three categories:

1. Cases where the settlement processes are followed correctly, but a negative meter advance nonetheless results. The most common example of this is likely to be when a Deemed Meter Advance (calculated for example on Change of Supplier) is higher than a subsequent actual meter read, leading to a negative meter advance.
2. Cases where a process failure leads directly to a negative meter advance. An example of this would be if a Non Half Hourly Data Collector misinterpreted a meter rollover as a large negative advance.
3. Cases where a process failure leads to a large positive meter advance, which is not withdrawn prior to Final Reconciliation, and the Non Half Hourly Data Collector therefore has to correct the overall volume of energy settled by 'compensating' for the large positive advance with a negative meter advance. (This practice is consistent with ELEXON guidelines on Gross Volume Correction).

5.3 Modification Proposal P40

Modification Proposal P40 proposes that:

- The rules for calculating AA values should remain unchanged, so a negative meter advance should still lead to a negative AA. This is necessary because, in many cases, the negative AA is compensating for a previous AA that was too high (and cannot now be withdrawn).
- The rules for calculating EAC values should be amended to replace any negative values with an appropriate default value. The rationale for this is that a negative meter advance is caused by a specific event (e.g. an error in interpreting a meter reading, or a Deemed Meter Advance being too high) and does not indicate that subsequent meter advances will also be negative. It is therefore inappropriate for the EAC (which is used in lieu of future meter advances) to take a negative value.

To be specific, Modification Proposal P40 proposes that a negative EAC value should be replaced by a default value calculated from the GSP Group Profile Class Average EAC ($GGPCAEAC_{HPC}$) for GSP Group H, Profile Class P and Standard Settlement Configuration C. Section 7 of this report includes the precise legal text.

6 RATIONALE FOR PANEL RECOMMENDATIONS

The majority of Panel Members agreed with the Modification Group's arguments (described in section 8.1 of this report) that Modification Proposal P40 would not better facilitate achievement of the Applicable BSC Objectives, for the following reasons:

- Where a negative EAC value occurs, either the previous or the subsequent EAC will typically be too large, and these two values can compensate for each other. Removing only one of them runs the risk of introducing a systematic distortion into the (uncorrected) Non Half Hourly energy values entering settlement. This may hinder effective competition in the supply of electricity.
- The actual effect on the accuracy of DUoS billing and settlement is very limited, with any inaccuracies being resolved through the mechanism of Reconciliation. The costs of changing Non Half Hourly Data Collector software to implement the Modification Proposal would therefore outweigh the benefits.

A number of Panel Members also believed that Modification Proposal P40 was seeking to address the symptoms of poor data quality, and that it was more appropriate to address the underlying causes through appropriate performance assurance techniques.

7 LEGAL TEXT TO GIVE EFFECT TO THE PROPOSED MODIFICATION

7.1 Conformed Version

ANNEX S-2: SUPPLIER VOLUME ALLOCATION RULES

4.3 Non Half Hourly Data Collection

No changes until…

4.3.7 For the purposes of this paragraph 4.3.7 the Previous Estimated Annual Consumption ($PEAC_{KR}$) shall be defined as the effective value of EAC_{KR} for each Settlement Day in the Meter Advance Period which applies before a new value is determined in accordance with this paragraph. An Annualised Advance Adjustment Factor ($AAAF_{KR}$) and a new Estimated Annual Consumption shall be determined as follows using the value of Annualised Advance determined pursuant to paragraph 4.3.4:

(a) $AAAF_{KR} = \max(0, \min((FYC_{KR} * SPAR), 1.0))$; and

(b) **if $(AAAF_{KR} * AA_{KR} + (1 - AAAF_{KR}) * PEAC_{KR}) >= 0$, then**

$$EAC_{KR} = AAAF_{KR} * AA_{KR} + (1 - AAAF_{KR}) * PEAC_{KR}$$

else

$$\mathbf{EAC_{KR} = GGPCAEAC_{HPC} * AFYC_{HPR}}$$

where:

(a) SPAR is the value of the Smoothing Parameter set from time to time by the Panel applicable on the last Settlement Day of the Meter Advance Period;

(b) $GGPCAEAC_{HPC}$ is the value of the GSP Group Profile Class Average Estimated Annual Consumption for the GSP Group "H", Profile Class "P" and Standard Settlement Configuration "C" applying to the Metering System on the Settlement Day following the last Settlement Day of the Meter Advance Period; and

(c) $AFYC_{HPR}$ is the value of the Average Fraction of Yearly Consumption for the GSP Group "H", Profile Class "P" and Standard Settlement Configuration and Time Pattern Regime combination "R" applying to the relevant Settlement Register within the Metering System on the Settlement Day following the last Settlement Day of the Meter Advance Period.

The Effective From Settlement Date for each such value of Estimated Annual Consumption shall be the date of the Settlement Day following the last Settlement Day of the Meter Advance Period and shall replace any previous Estimated Annual Consumption effective on such Settlement Days.

7.2 Clean Version

ANNEX S-2: SUPPLIER VOLUME ALLOCATION RULES

4.3 Non Half Hourly Data Collection

No changes until…

4.3.7 For the purposes of this paragraph 4.3.7 the Previous Estimated Annual Consumption ($PEAC_{KR}$) shall be defined as the effective value of EAC_{KR} for each Settlement Day in the Meter Advance Period which applies before a new value is determined in accordance with this paragraph. An Annualised Advance Adjustment Factor ($AAAF_{KR}$) and a new Estimated Annual Consumption shall be determined as follows using the value of Annualised Advance determined pursuant to paragraph 4.3.4:

(a) $AAAF_{KR} = \max(0, \min((FYC_{KR} * SPAR), 1.0))$; and

(b) if $(AAAF_{KR} * AA_{KR} + (1 - AAAF_{KR}) * PEAC_{KR}) >= 0$, then

$$EAC_{KR} = AAAF_{KR} * AA_{KR} + (1 - AAAF_{KR}) * PEAC_{KR}$$

else

$$EAC_{KR} = GGPCAEAC_{HPC} * AFYC_{HPR}$$

where:

(a) SPAR is the value of the Smoothing Parameter set from time to time by the Panel applicable on the last Settlement Day of the Meter Advance Period;

(b) $GGPCAEAC_{HPC}$ is the value of the GSP Group Profile Class Average Estimated Annual Consumption for the GSP Group "H", Profile Class "P" and Standard Settlement Configuration "C" applying to the Metering System on the Settlement Day following the last Settlement Day of the Meter Advance Period; and

(c) $AFYC_{HPR}$ is the value of the Average Fraction of Yearly Consumption for the GSP Group "H", Profile Class "P" and Standard Settlement Configuration and Time Pattern Regime combination "R" applying to the relevant Settlement Register within the Metering System on the Settlement Day following the last Settlement Day of the Meter Advance Period.

The Effective From Settlement Date for each such value of Estimated Annual Consumption shall be the date of the Settlement Day following the last Settlement Day of the Meter Advance Period and shall replace any previous Estimated Annual Consumption effective on such Settlement Days.

8 ASSESSMENT

This section of the report summarises the assessment carried out by the Volume Allocation Modification Group during the Assessment Procedure. Full details are contained in the P40 Assessment Report, which may be found on the BSC website at www.elexon.co.uk.

8.1 Assessment Against Applicable BSC Objectives

Modification Proposal P40 argues that it is intrinsically inappropriate for an EAC to take a negative value, given that an EAC is a forward-looking estimate of consumption, and it would never be reasonable to expect the consumption recorded on a Non Half Hourly meter to be negative on an ongoing basis. In order to assess the materiality of this issue, the Modification Group analysed data (from the largest Non Half Hourly Data Aggregator in one particular GSP Group), and concluded that Modification Proposal P40 would increase by some 0.75% the total volume of (uncorrected) Non Half Hourly energy at Initial Settlement.

The Modification Group therefore concluded that the existence of negative EAC values does have a small but noticeable effect on the volume of (uncorrected) Non Half Hourly energy entering settlement at Initial Settlement. However, the view of the Modification Group is that removing negative EAC values in this way would not better facilitate the achievement of the Applicable BSC Objectives, for the following reasons:

- Although the Modification Group had some sympathy for the Proposer's view that it is inherently anomalous for a forward-looking estimate of consumption to take a negative value, they also noted that where a negative EAC value occurs, either the previous or the subsequent EAC will typically be too large. The two errors do to some extent compensate for each other, and removing only one of them runs the risk of introducing a systematic distortion into the (uncorrected) Non Half Hourly energy values entering settlement, which could hinder effective competition in the supply of electricity.
- Even if one were to accept that negative EAC values are undesirable in principle, their actual effect on the accuracy of DUoS billing and settlement is extremely limited, with any inaccuracies being resolved through the mechanism of Reconciliation. The Modification Group therefore believe that the costs of making the change would outweigh the benefits (and that the cost of implementation would therefore hinder rather than promote effective competition in the supply of electricity).

8.2 BSC Agent Impact Assessment

Modification Proposal P40 would require changes to the EAC/AA system, which is provided to Non Half Hourly Data Collectors by ELEXON for the purpose of calculating EAC values. The impact assessment obtained from the EAC/AA software developer during the Assessment Procedure indicates that the cost of these software changes would be £79,800. ELEXON estimates that an additional £40,000 would be required for acceptance testing, market participant testing and project management.

9 SUMMARY OF REPRESENTATIONS

(A summary of the representations received in response to the consultation will be included here.)

9.1 Previous Consultations

On 5th November 2001, in the course of the Assessment Procedure, Modification Proposal P40 and a paper describing the issues it raises were issued for consultation. A summary and copies of the representations received and considered by the Modification Group can be found in the P40 Assessment Report.

ANNEX 1 – REPRESENTATIONS

(The full text of the representations received in response to the consultation will be included here.)