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Draft ASSESSMENT REPORT FOR MODIFICATION PROPOSAL P100 – Extension of Demand-side Trading Units

Prepared by the P100 Settlement Standing Modifications Group on behalf of the Balancing and Settlement Code Panel

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Ref.	Document Name
Reference 1	Modification Proposal P100 - 'Extension of Demand-side Trading Units in order to increase the Competitiveness of the Market for Embedded Benefits'
Reference 2	Initial Written Assessment for P100
Reference 3	Statement of the Use of System Charging Methodology
Reference 4	"Ofgem Report to the DTI on the Review of the initial impact of NETA on smaller Generators" available at http://www.ofgem.gov.uk/docs2001/52_small_gens_review.pdf
Reference 5	"Connection Charging Review Initial Conclusions Report" available at http://www.nationalgrid.com/uk/indinfo/charging/mn_charging_review.html
Reference 6	"Use of System and Interconnector Charging Review Conclusions Report" available at http://www.nationalgrid.com/uk/indinfo/charging/mn_charging_review.html
Reference 7	Modification Proposal to the Use of System Charging Methodology UoSCM-M-07 "Proposed change to the TNUoS Liability Rules for Embedded Licence Exemptable Generations and Distribution Interconnectors" available at: http://www.nationalgridinfo.co.uk/charging/pdfs/UOSCM-M-07_Changes_to_rules_for_LEGs.pdf

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1 SUMMARY AND RECOMMENDATIONS

1.1 Recommendations

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 P100 Settlement Standing Modification Group (P100 SSMG) could not determine whether or not the Proposed Modification would better facilitate the Applicable BSC Objectives.

The P100 SSMG considered arguments for and against P100, and noted the even split of views within the group and as respresented by the consultation responses. The P100 SSMG also noted the Transmission Company Charging Review which resulted in modification proposal UoSCM-M-07 to the Use of System Charging Methodology (Reference 7), seeking to amend the basis of Transmission Network Use of System (TNUoS) Charging for embedded generators. Given that a decision on UoSCM-M-07 is likely to be finalised by mid-January, the P100 SSMG considered a possible extension of the Assessment Procedure for P100, but felt that the arguments for and against P100 are too fundamental and robust for a consensus recommendation to emerge. The group also noted that other embedded benefits would not be affected by the Transmission Company Charging Review. The P100 SSMG therefore decided to present both sides of the argument to the Panel without a formal recommendation on whether or not P100 should be made.

As a result of the analysis undertaken, the majority of the P100 SSMG favoured an Implementation Date of 5 November 2003 if an Authority Determination is received before 25 April 2003, and Implementation Date of 25 February 2004 if an Authority Determination is received after 25 April 2003 but before 15 August 2003.

1.2 Background

Modification Proposal P100 (P100) - 'Extension of Demand-side Trading Units in order to increase the Competitiveness of the Market for Embedded Benefits' was submitted on 2 September 2002 by Slough Energy Ltd, and the Initial Written Assessment (Reference 2) was considered by the BSC Panel at their meeting on 12 September 2002. The Panel agreed to submit P100 to a 3-month Assessment Procedure.

P100 addresses alleged shortcomings related to the trading of embedded benefits. It seeks to amend Section K of the BSC to create one default Trading Unit (to be called a `Base Trading Unit') for each GSP Group, which would comprise all Supplier BM Units and all participating Exempt Export BM Units in the relevant GSP Group. The Proposer states that whilst each relevant BM Unit would by default belong to the relevant Base Trading Unit, an Exempt Export BM Unit should have the option of exiting at the behest of its Lead Party. Secondly, the Proposer suggests that each Exempt Export BM Unit in a Base Trading Unit should be allowed to choose its Production Consumption Status (P/C Status) independently. The Proposer also believes that Supplier Meter Registration System (SMRS) registered non-default Supplier BM Units composed of licence exemptable generation should be treated as Exempt Export BM Units.

1.3 Rationale for Recommendations

The Modification Proposal was raised to better facilitate the following Applicable BSC Objectives:

(c) Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity; and

(d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.

The P100 SSMG concluded that P100 would not materially affect Applicable BSC Objective (d). The P100 SSMG also recognised that they could not reach a majority decision on whether or not P100 would promote effective competition in the generation and supply of electricity. The arguments for P100 suggested that the Proposed Modification would remove certain market imperfections and create the economic conditions under which competition for embedded benefits could increase. The arguments against P100 suggested that the Proposed Modification would distort the market by forcing Suppliers to pay too much for transmission services and that there were already sufficient provisions in the Code for the competitive trading of embedded benefits. The details of these arguments, together with the analysis undertaken to support them, are summarised in Section 4 of this report.

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 . 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 Code.

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

3 MODIFICATION GROUP DETAILS

Name	Company	Member / Attendee
Justin Andrews	ELEXON	Member (Chairman)
Ben Willis	NPower	Member
Emrah Cevik	ELEXON	Member
Ian Calvert	British Sugar	Member
Maurice Smith	Campbell Carr	Member
Paul Dawson	Barclays	Member
Paul Jones	Powergen	Member
Richard Lavender	NGC	Member
Robert Owens	Smartest Energy	Member
Sarah Grimes	British Gas	Member
Steve Garrett	Slough Energy	Member
Colin Paine	Gaz de France	Attendee

David Lyon	Nabarro Nathanson	Attendee
Melanie Henry	ELEXON	Attendee
Nick Simpson	Ofgem	Attendee
Paul O'Donovan	Ofgem	Attendee
Phil Russell	TXU	Attendee
Rachel Ace	British Energy	Attendee
Terry Morley	St Clements	Attendee

4 DESCRIPTION AND ASSESSMENT AGAINST THE APPLICABLE BSC OBJECTIVES

4.1 The Proposed Modification

The SSMG met four times (on 25 September, 16 October, 11 November and 28 November 2002) to consider P100.

It was noted that a Trading Unit is a set of BM Units that are deemed to be physically close. A Class 4 Trading Unit is a set of BM Units in the same GSP Group. Trading Units were originally designed to implement the Secretary of State's decision regarding on-site generation. The main practical reason for forming a Trading Unit is to realise embedded benefits. Because of their deemed physical proximity, BM Units in a Trading Unit are afforded net treatment, meaning that the overall commercial effect is the same as if demand occurring within the Trading Unit were satisfied directly by generation within the Trading Unit (or vice versa), with only the net of the two being traded over the system.

At the first P100 SSMG meeting on 25 September 2002, the Proposer outlined the rationale behind P100. The Proposer suggested that the trading of embedded benefits is currently constrained by contractual status rather than being determined by the physical characteristics of avoided Transmission Network System Use. The Proposer argued that since use of the Transmission Network is a physical phenomenon, the realisation of embedded benefits should not depend on the presence or absence of contracts to form a Trading Unit. The Proposer believed that under the current trading arrangements, embedded generators face the disadvantage of a weak bargaining position against Suppliers with a large portfolio. The Proposer suggested that P100 would enable embedded benefits to be traded efficiently and competitively without requiring spurious contractual arrangements.

In recognition of the above, the Proposer concluded that P100 would better facilitate the following Applicable BSC Objectives as set out in paragraph 3 of Condition C3 of the Transmission Licence:

> (c) Promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity; and
>
> (d) Promoting efficiency in the implementation and administration of the balancing and settlement arrangements.

4.2 Analysis of Supply in GSP Groups

The Modification Proposal suggests that (under the current trading rules) small Suppliers, consolidators and embedded generators face a competitive disadvantage against other Suppliers and generators. The Proposer claims that, as a result, embedded generators stand in a handicapped bargaining position with respect to large Suppliers.

In order to investigate the alleged bargaining power of large Suppliers, ELEXON was asked to undertake an analysis of the market share of Suppliers within each GSP Group. The results of this analysis are summarised in Annex 5 of this Report.

The analysis was deemed sufficient to corroborate the Proposer's view that a number of large Suppliers dominate the Supply market within their respective GSP Groups. However, members of the P100 SSMG differed in their economic interpretation of the results. Supporters of P100 argued that the structure of the Supply market indicates the presence of market imperfections such as monospony or oligopsony, whilst opponents of P100 suggested that the current situation is consistent with a developing market and provides sufficient opportunities for the trading of embedded benefits.

4.3 Analysis of Embedded Benefits

During two meetings on 25 September and 16 October 2002, the P100 SSMG considered the set of embedded benefits relevant to the assessment of P100. It was deemed that a detailed analysis of these benefits was necessary before any specific assessment could be undertaken with regard to the Applicable BSC Objectives. This Section presents a description of embedded benefits. The arguments on whether or not P100 would better facilitate the Applicable BSC Objectives are summarised in Section 4.8 below.

The P100 SSMG noted that a Trading Unit is a set of BM Units that are close to each other. A Class 4 Trading Unit is a set of BM Units that are in the same GSP Group. The main practical reason for forming a Trading Unit is to realise embedded benefits. Because of their physical proximity, BM Units in a Trading Unit are afforded net treatment, meaning that the overall commercial effect is the same as if demand occurring within the Trading Unit were satisfied directly by generation on site, with only the net of the two being traded over the system.

The P100 SSMG also noted that Trading Units facilitate the management of imbalance risks as each BM Unit in a given Trading Unit is assigned the same Production Consumption Status (P/C Status) based on the parameters of the Trading Unit as a whole. However, this was deemed irrelevant for the assessment of P100 since BSC paragraph K3.5.5 already allows an Exempt Export BM Unit (which belongs to a Sole Trading Unit) to choose its own P/C Status. In other words, imbalance risks can be managed in an identical manner by any Exempt Export BM Unit without having to form a Trading Unit with Supplier BM Units and vice versa.

The SSMG determined that for the purposes of the P100 Assessment Procedure, the relevant embedded benefits could be ranked in material order, as follows[1]:

1. TNUoS Benefits
2. BSUoS Benefits
3. Transmission Loss Benefits

1.1.1.1

[1] For Ofgem's view on the materiality of embedded benefits, see Appendix 8 of "Report to the DTI on the Review of the Initial Impact of NETA on Smaller Generators" (Reference 4).

4. BSCCo Charge Benefits

It was decided that any effects relating to the Residual Cashflow Reallocation Cashflow (RCRC, known informally as the "beer fund") should be considered neither as an embedded benefit nor as an embedded disbenefit.

The SSMG also noted that TNUoS and BSUoS charges are outside the vires of the BSC and that Ofgem is responsible for ensuring the consistency of NETA charging across different governance arrangements. It was also noted that the Transmission Company is currently conducting a charging review, which is likely to amend the rules for TNUoS and BSUoS charging. The analysis presented in this Report was conducted against the current baseline, in accordance with the terms of reference of the P100 SSMG. The following subsections summarise the details of the analysis conducted by ELEXON. For more detail on the Tranmission Company's charging review, refer to "Connection Charging Review Initial Conclusions Report" (Reference 5) and "Use of System and Interconnector Charging Review Conclusions Report" (Reference 6), published on the NGC website.

4.3.1 TNUoS Benefits

The P100 SSMG noted the Transmission Company Charging Review, which resulted in modification proposal UoSCM-M-07 (Reference 7), seeking to amend the basis of Use of System Charging for embedded generators. Given that a decision on UoSCM-M-07 is likely to be finalised by mid-January, the P100 SSMG considered a possible extension of the Assessment Procedure for P100, but felt that the arguments for and against P100 are too fundamental and robust for a consensus recommendation to emerge. The group also noted that other embedded benefits would not be affected by the Charging Review. The analysis presented here was conducted against the current baseline.

Transmission Network Use of System (TNUoS) charges are levied in accordance with the Transmission Company's "Statement of the Use of System Charging Methodology" (Reference 3). TNUoS charges are divided into generation charges and demand charges.

4.3.1.1 Generation Charges

Generation charges are applicable to certain classes of Interconnector Asset Owners, to Lead Parties of BM Units that comprise certain classes of licensable generation plant, and to any other generation which submits Offers and Bids and which is not in a Trading Unit with a Supplier BM Unit.

In other words, an Exempt Export BM Unit is liable for generation charges if and only if it fails to form a Trading Unit with Supplier BM Units and participates in the Balancing Mechanism. It should also be noted that, according to paragraph 4.9 of the Statement, if an Exempt Export BM Unit is liable for generation charges at any point over the financial year, it will not be eligible for Triad Trading within the same financial year. (Triad Trading is described below.)

Under P100, each Exempt Export BM Unit will, by default, be in a Trading Unit with Supplier BM Units and thus will not be liable for any generation charges whether or not it participates in the Balancing Mechanism.

4.3.1.2 Demand Charges

Demand charges are payable by Lead Parties of certain classes of BM Unit on the basis of:

(i) the half-hourly metered demand at certain Settlement Periods of peak demand, known as Triads, multiplied by a £/kW tariff; and

(ii) the annual non-half-hourly demand during the daily peak periods between 16:00 to 19:00 multiplied by a £/MWh tariff.

Note that, if the demand charge is negative, say because of generation within the Supplier BM Unit, then the charge is reset to zero.

Paragraph 4.6 of the Statement states that the Lead Party of an Exempt Export BM Unit in a Trading Unit without any Supplier BM Units will itself be liable for demand charges. Under P100, an Exempt Export BM Unit will, by default, not be liable for these demand charges.

Furthermore, it is still possible for Exemptable Generating Plant to offset demand charges for Supplier BM Units. This is known as "Triad Trading".

Exemptable Generating Plant in a Trading Unit can offset the demand charge of a Supplier BM Unit by the export at Triad of the exporting BM Unit multiplied by the £/kW demand tariff. By default, this "Triad Benefit" is pro-rated across each Supplier BM Unit in the Trading Unit in proportion to the demand charges that would otherwise apply. Note also that if an Exempt Export BM Unit imports at the time of the Triad, it will increase the demand charge of the Supplier BM Units, in the same manner.

Alternatively, rather than being allocated on the basis of the demand charges that would otherwise apply, the Triad Benefit may be allocated on any other basis which is notified to NGC. Furthermore, it is not essential to form a Trading Unit, and an allocation of the Triad Benefit to any Supplier BM Unit in the same GSP Group may be notified to NGC, irrespective of whether the relevant BM Units are in the same Trading Unit.

It should also be noted that each Triad Trade is allocated to a BM Unit so that the triad benefit can be used to net off any applicable TNUoS demand charge, whether or not the relevant demand is HH or NHH.

4.3.2 BSUoS Benefits

As noted above, the Transmission Company is currently conducting a Charging Review. The analysis presented here was conducted against the current baseline.

BSUoS Charges are levied also in accordance with NGC's "Statement of the Use of System Charging Methodology". According to Chapter 9 of the Statement, the Lead Party of each BM Unit is liable to pay (or receive) BSUoS charges for a given Settlement Period based on the period BM Unit Metered Volume. To calculate the charge, a Balancing Services Price (BSP_j) must be determined for each MWh transported over the Transmission System during the given Settlement Period. BSP_j is then multiplied by the BM Unit Metered Volume (adjusted for transmission losses) to give a charge for the Lead Party of each BM Unit. Most importantly:

- This charge is positive if the BM Unit conforms to the behaviour of its Trading Unit. In other words, there is a payment to NGC from the Lead Party when the BM Unit is exporting (generating) and the Trading Unit in which it resides is in delivery mode, or when the BM Unit is importing (consuming) and the Trading Unit in which it resides is in offtake mode.
- The charge is negative if the BM Unit acts contrary to the behaviour of its Trading Unit. In other words, there is a payment to the BSC Party from NGC when the BM Unit is exporting (generating) and the Trading Unit in which it resides is offtaking, or when the BM Unit is importing (consuming) and the Trading Unit in which it resides is delivering.

The benefit realised by the Lead Party of an Exempt Export BM Unit in an offtaking Trading Unit is twice the absolute value of the BSUoS charge that would otherwise have applied. Instead of paying the charge, the Exempt Export BM Unit now receives a payment equal in absolute value.

4.3.3 Transmission Loss Benefits

The allocation of transmission losses across all BM Units is described in Section T.2 of the BSC. The BSC determines two distinct Transmission Loss Multipliers (TLM_j) for each Settlement Period. One of these multipliers is generally less than 1 and is applied to BM Unit Metered Volumes associated with delivering Trading Units. The other is generally greater than 1 and is applied to BM Unit Metered Volumes associated with offtaking Trading Units.

If an Exempt Export BM Unit is in an offtaking Trading Unit, the Metered Volume of the Exempt Export BM Unit will be multiplied by a factor greater than 1, resulting in an increase in its Metered Volume. In effect, the embedded generator will be credited with the losses it is deemed to have saved and will be treated accordingly in the settlement process.

Ignoring any minor effect of TLM_j values on other embedded benefits, the direct Transmission Loss benefit (in MWh terms) realised by an Exempt Export BM Unit in an offtaking Trading Unit is the difference between the two distinct TLM_j values, multiplied by the BM Unit Metered Volume.

It should be noted that the resulting Transmission Loss credit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Exempt Export BM Unit.

4.3.4 BSCCo charges

Certain BSCCo charges are pro-rated on the basis of credited volumes. Other charges, known as Specified BSC Charges, are levied on a per BM Unit or per Trading Party basis. A General Funding Share (FSG_{pm}) is calculated for each Party to aggregate these different charges.

Annex D-3 defines Specified BSC Charges. Paragraph 3.1(c)(ii)(1) of the Annex states that no CVA BM Unit Monthly Charge will be levied for Exempt Export BM Units at an Exemptable Generating Plant associated with Consumption BM Units. If an Exemptable Generating Plant is not associated with Consumption BM Units, then Paragraph 3.1(c)(ii)(2) states that the Lead Party of any number of Exempt Export BM Units at the Exemptable Generating Plant will be presented with a single CVA BM Unit Monthly Charge of £100, taking all such BM Units as a single unit. This is an embedded benefit that can be realised by Lead Parties regardless of Trading Unit status.

Funding Shares are described in Annex D-1. An Exempt Export BM Unit contributes to an Energy Account holder's General Funding Share (FSG_{pm}) through the monthly Main Funding Share (FSM_{pm}). The sign of the contribution made by a BM Unit to the Party's funding share depends on whether it is part of a delivering or offtaking Trading Unit. A generating Exempt Export BM Unit will contribute negatively to the funding share if it is in an offtaking Trading Unit but positively if it is in a delivering Trading Unit. Hence a generating Exempt Export BM Unit will realise a benefit for the Party (whose energy account is credited) by joining an offtaking Trading Unit. The monetary value of the benefit will depend on ELEXON's expenses which form the basis of the Monthly Net Main Cost ($MNMC_m$). If we estimate ELEXON's relevant expenses to be £60 million annually and also estimate annual energy consumption in England and Wales to be approximately 300 TWh, then we can roughly say that BSCCo

charges recovered through FSM_{pm} should be the same order of magnitude as £0.10 / MWh. The benefit realised[2] by an Exempt Export BM Unit in an offtaking Trading Unit is twice this value and hence roughly £0.20 / MWh.

For an SMRS registered BM Unit comprising only embedded generation, there is a further BSCCo charge benefit. The SVA Production Funding Share ($FSPS_{pm}$) is determined in a manner analogous to FSM_{pm}, as described above. This means that such a BM Unit will contribute a negative value to the $FSPS_{pm}$ of the Party whose Energy Account is credited, if it generates electricity within an offtaking Trading Unit.

It should be emphasised that the resulting ELEXON credit or charge accrues to the BSC Party who owns the Energy Account to which the metered energy of the Exempt Export BM Unit is credited. This Party need not be the Lead Party of the Exempt Export BM Unit.

4.3.5 Residual Cashflow Reallocation Cashflow

Residual Cashflow Reallocation Cashflow ($RCRC_{aj}$) is typically a payment to Trading Parties, being the aggregate of all Account Energy Imbalance Cashflows and Information Imbalance Charges as described in Section T4.10 of the BSC. Payments are pro-rated according to Credited Energy Volume for BM Units that are in delivering Trading Units, and according to -1 times Credited Energy Volume for BM Units that are in offtaking Trading Units. Hence, an Exempt Export BM Unit which is part of an offtaking Trading Unit will typically incur RCRC costs.

However, if the aggregate of all Account Energy Imbalance Cashflows and Information Imbalance Charges becomes negative (as in a long market where Parties typically prefer to spill on to the Transmission System), then RCRC would represent a charge to typical Trading Parties. In contrast, an Exempt Export BM Unit in an offtaking Trading Unit would be liable for an RCRC credit under these circumstances.

It should be noted that the resulting RCRC credit or charge accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Exempt Export BM Unit.

4.3.6 Brief Summary

Table A provides a summary of the beneficiary of each relevant embedded benefit.

Table A – Summary of Beneficiaries

BENEFIT	BENEFICIARY
TNUoS Benefit	Lead Party of Supplier BM Unit
BSUoS Benefit	Lead Party of Exempt Export BM Unit
BSCCo Benefit	Party holding the Energy Account
TLM Benefit	Party holding the Energy Account
RCRC Benefit / Disbenefit	Party holding the Energy Account

1.1.1.1

[2] It must be emphasised that ELEXON charges are billed on a net basis every month. Therefore, a Party will see on their bill only the net result of the charges relating to credited energy for every half-hour, every BM Unit and every Trading Unit in the billing period. There is no simple-minded way to calculate ELEXON charges for individual Parties, even though there is a simple-minded way to estimate the embedded benefit, as shown above.

4.4 Worked Examples

4.4.1 Assumptions

The following quantitative assumptions hold in all the examples described below. These values indicate order of magnitude and are not intended to be unduly realistic. More information on embedded benefits as well as Ofgem's own material estimates are available in Appendix 8 of "Report to the DTI on the Review of the Initial Impact of NETA on Smaller Generators" (Reference 4).

- TNUoS HH demand tariff = £10 / kW

For the avoidance of doubt, it should be noted that the TNUoS HH demand charge is levied on the basis of average power (kW) consumption in a Triad, and *not* on metered energy demand (in kWh or MWh terms). The calculated benefit applies to the annual HH demand TNUoS charge for Supplier BM Units. This benefit accrues to the Lead Parties of the relevant Supplier BM Units.

It is also possible to estimate a value per MWh that indicates the order of magnitude of the TNUoS tariff in a manner more easily comparable to the other benefits studied. This estimate is carried out in the "Report to the DTI on the Review of the Initial Impact of NETA on Smaller Generators" (Reference 4).

- BSUoS benefit = £2.00 / MWh

The BSUoS benefit is calculated simply as twice the value of the BSP which is assumed here to be around £1.00 / MWh.

- TLM benefit = £0.40 / MWh (2% of £20 energy price per MWh)

If the TLM's are 1.01 for offtaking Trading Units and 0.99 for delivering Trading Units, the Transmission loss benefit will be 0.02 (= 1.01 – 0.99) of metered energy. This corresponds to 2% which gives a monetary value of £0.40/MWh when multiplied by an "approximate" energy price of £20/Mwh. It should be emphasised that the Transmission Loss benefit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Exempt Export BM Unit.

- BSCCo benefit = £0.20 / MWh (as estimated in para 4.3.4 above)

As noted above, this benefit depends on ELEXON's expenses and on aggregate energy flows on the Transmission System on a monthly basis. In general, the benefit increases with higher expenses and lower energy flows. It should also be noted that the BSCCo benefit accrues to the BSC Party who owns the Energy Account to which the metered energy is credited. This Party need not be the Lead Party of the Exempt Export BM Unit.

4.4.2 Legend

The left-hand side of each diagram in the following examples shows certain BM Units and indicates whether or not they form a Trading Unit. Each BM Unit is assigned a number showing its half hourly (HH) metered energy in MWh for a ½hour Settlement Period. Positive volumes indicate generation. For the purpose of assessing TNUoS benefits, the ½hour period is assumed to be a Triad.

It is deemed that no embedded benefits are realised in Example 1. This configuration will be used as a baseline against which to assess embedded benefits in the other configurations. Example 2 represents a Trading Unit and Example 3 represents an SMRS registered BM Unit comprising exactly the same generation and demand as Example 1. Both of the latter configurations will be seen to realise the same embedded benefits. They differ only in the way that these benefits are apportioned.

4.4.3 Example 1

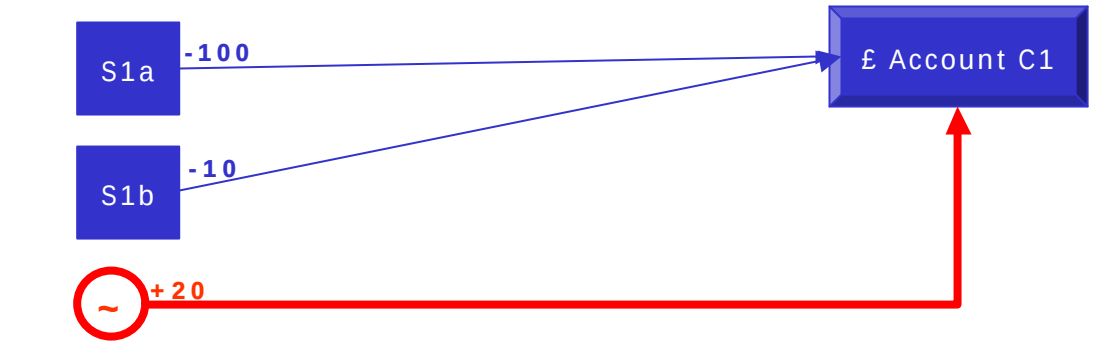

Table-1

BM UNIT	TNUoS Benefit	BSUoS Benefit	Other Benefits
S1a	Depends on contract Default: None	None	None
S1b	Depends on contract Default: None	None	None
Embedded (~)	None. BMU liable for demand charge. BM Participation results in generation charge.	None	None

Analysis: The two Supplier BM Units will pay TNUoS demand charges at £10/kW for their entire demand. To consume a total of 110 MWh in a ½hour Settlement Period, they must have been consuming at a rate of 220 MW, i.e. 220,000 kW. The total TNUoS Charge is therefore £2,200,000 for the year, if we assume that the two other triads exhibit the same demand. Similarly, all three BM Units will be paying BSUoS charges at £1/MWh per Settlement Period. As a result, S1a will pay £100, S2a will pay £10 and the Exempt Export BM Unit will pay £20 in this Settlement Period, resulting in a total payment of £130. Similarly, all

three BM Units will be incurring transmission losses and ELEXON charges for the energy account. For example, the energy from the Exempt Export BM Unit will be multiplied by the delivering TLM and get reduced by 1%. Given a metered volume of 20 MWh at an assumed price of £20/MWh, this yields a transmission loss cost of £4 for the Exempt Export BM Unit. Similarly, the ELEXON charge attributable to the Exempt Export BM Unit at £0.10/MWh is roughly £2 for the given Settlement Period.

4.4.4 Example 2

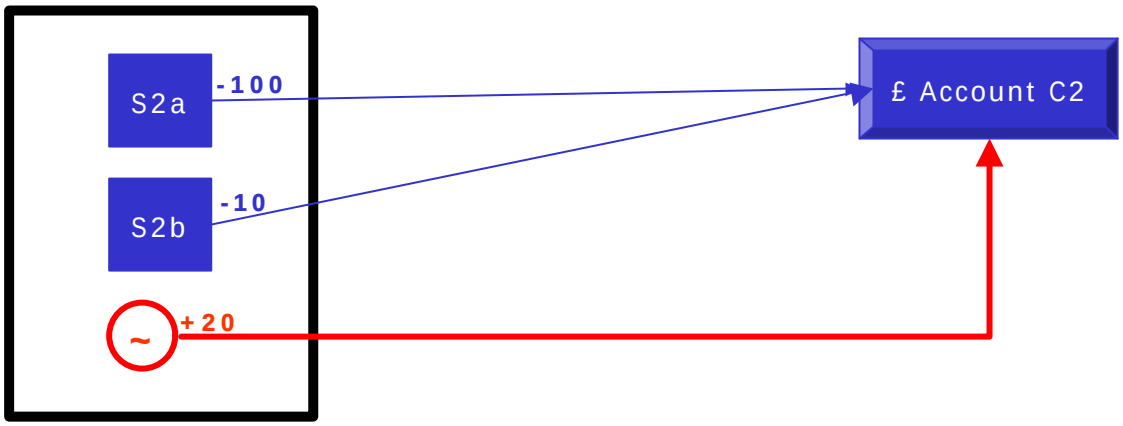

Table-2

BM UNIT	TNUoS Benefit	BSUoS Benefit	Other Benefits
S2a	Depends on contract Default: £360,360 per year	None	£8 TLM (£Account) £4 BSCCo (£Account)
S2b	Depends on contract Default: £30,640 per year	None	
Embedded (~)	Ability to Participate in the BM without paying any TNUoS charges	£40	

Analysis: In order to produce 20 MWh in a ½hour Settlement Period, the Exempt Export BM Unit must have been generating at an average power rate of 40,000 kW. This gives the total TNUoS benefit when multiplied by the HH TNUoS demand tariff of £10/kW. Hence the total benefit is £400,000 over the year if we assume that the two remaining triads exhibit the same pattern of generation and demand. This benefit is, by default, pro-rated across the two Supplier BM Units in the Trading Unit.

The BSUoS, TLM and ELEXON benefits are found by multiplying the relevant benefit rate by the 20 MWh of energy generated by the Exempt Export BM Unit. It must again be emphasised that these figures represent the benefit and not the total charge for the relevant Party.

To facilitate comparison with Example 1, note for example that instead of incurring a £2 BSCCo charge, the Exempt Export BM Unit will incur a £2 BSCCo credit, realising a benefit of £4 in total for the Energy Account during this Settlement Period.

4.4.5 Example 3

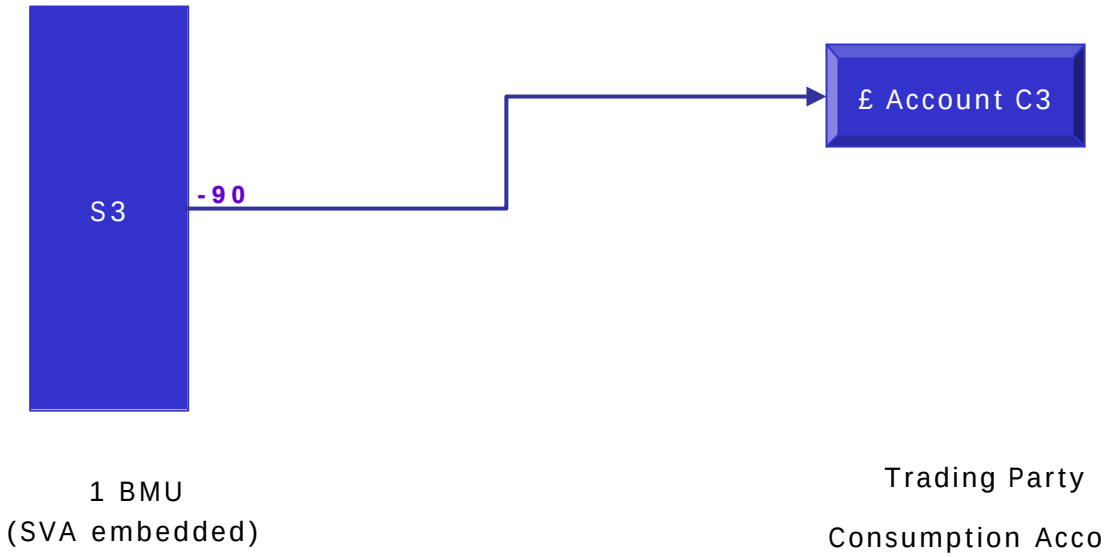

Table-3

BM UNIT	TNUoS Benefit	BSUoS Benefit	Other Benefits
S3 (containing ~)	£400,000 per year	£40	£8 TLM (£Account) £4 BSCCo (£Account)

Analysis: In this case, the calculations and comparison with Example 1 are relatively straight-forward. The BM Unit will pay full TNUoS, BSUoS, transmission loss and BSCCo charges for its total metered demand. The netting effect of the embedded generator is invisible to the outside world.

The HH demand of 90MWh in a ½hour Settlement Period corresponds to 180,000 kW power consumption. If we multiply this by the £10/kW TNUoS HH Demand tariff, we find a TNUoS charge of £1,800,000. The difference between this charge and the total charge for Example 1 is £400,000, which represents the benefit associated with the configuration in Example 3. Similarly, the BSUoS charge will be £90 at a rate of £1/MWh for the Settlement Period. Compared with the total BSUoS charge of £130 in Example 1, this configuration realises a £40 benefit.

The other benefits are calculated in an entirely analogous manner.

4.5 Arguments Concerning the Apportionment of Embedded Benefits

The P100 SSMG identified two opposing lines of argument on whether or not the Proposed Modification would better facilitate the Applicable BSC Objectives. These arguments were reinforced by the consultation responses. As a result, the P100 SSMG was evenly split on whether or not to recommend to the Panel that P100 should be made.

The main contentions of the two arguments are outlined here. Further details of the arguments may be found in Annexes 2, 3 and 4.

4.5.1 Arguments in support of P100:

- Embedded benefits are based on avoided use of system. The latter is physical, and the resulting benefit should not depend on contractual agreements. If payment of embedded benefit is legitimate to begin with, it should be legitimate on the same terms for all embedded generation.
- Embedded benefits could be considered similar to Renewables Obligation Certificates (ROC's) and embedded generators can be viewed as providing transmission services to Suppliers in their GSP Group, whether or not a particular Supplier actually buys energy from a particular embedded generator. Demand is created by customers, not by Suppliers. System use is avoided to the same extent regardless of the identity of the Supplier responsible for those customers.
- P100 would remove market power from large vertically integrated companies.
- P100 would encourage market entry of new embedded generation, and would increase market liquidity at smaller volumes.
- P100 gives LEGs with embedded output the opportunity to reach agreement with any meter registrant to acquire its embedded benefits, enabling LEGs to sell these benefits to a much wider market, in contrast with the current situation where LEGs can only trade embedded consumer demand under the generators' GSP group. By widening the number of potential counterparties in this way, P100 would create the economic conditions under which competition for embedded benefits should increase, enabling LEGs to realise their value without the existing market constraints. P100 would theerfore promote effective competition in both the generation and supply of electricity.
- P100 would prevent the "defaulting" of embedded benefits to NHH Suppliers via the GSP Group Take Correction Factor.
- P100 would reduce the potentially large number of Trading Units by creating a minimum number of Base Trading Units in accordance with the intended meaning of the Class 4 Trading Unit concept.

4.5.2 Arguments against P100:

- License Exemptable Generators can already avoid TNUoS Charges without belonging to a Class 4 Trading Unit, if they do not wish to participate in the Balancing Mechanism.
- It is true that in the absence of Class 4 Trading Units, some embedded benefits accrue to all NHH Suppliers via the GSP Group Take Correction process, but these benefits are smeared across the GSP Group. As a result, certain Suppliers are willing to pay in order

that they can contract individually with Licence Exemptable Generators and realise specific benefits. This is a matter for commercial negotiation.

- Net charging is justified because generation and demand trade with each other within the distribution system or GSP Group. Embedded generation cannot realise benefits in the absence of Suppliers and vice versa. Both play a part, and both must gain from the resulting avoidance of system use. Embedded benefits may be viewed as a communal good which must be shared. P100 would force Suppliers to pay too much for transmission services.
- P7 provided sufficient flexibility for Licence Exempt Generators to contract with smaller Suppliers in a competitive environment. The Base Trading Units envisioned by P100 could arise by voluntary contract in the framework of P7. The compulsory nature of P100 is a crucial and undesirable difference.
- The current rules for embedded benefits already include an element of income redistribution and cross subsidy. This situation will be exacerbated by the adoption of P100, which eliminates the ability of Suppliers to recover part of the communal benefit through contractual means. P100 would distort market signals by an arbitrary redistribution of money. The effect would be to increase electricity prices paid by the end customer.
- Large Suppliers should not be penalised because of their size. Larger size affords better risk management and administrative efficiency. If embedded generators are small, they can contract with smaller Suppliers if they choose.
- Over-generation is a problem for the market as a whole. Currently, all generators have a weak bargaining position. The problems are not specific to embedded generation.

4.6 Impact Assessments

The P100 SSMG issued a High Level Impact Assessment (HLIA) on 31 October 2002 and a Detailed Level Impact Assessment (DLIA) on 13 November 2002. The response of the BSC Central Service Provider is included as Annex 1A of this report. The BSC Central Service Provider indicates that the change specific costs for P100 are estimated to be £162,000.

The Impact Assessment also quotes for a BSC Central Service Provider Project Overhead cost of £175,300 if P100 were implemented as a stand-alone project. The expected sofware development time is quoted as 15 weeks. If P100 were implemented as a stand-alone project, ELEXON would also incur additional costs (currently estimated as 250 man days plus audit costs). In addition, there would be a significant impact on the project lead time. It is also believed that a stand-alone project would entail significant risk to standard releases planned in June 2003 and November 2003. If P100 is to be implemented, ELEXON recommends that the software implementation should be achieved as part of a standard release in order to maintain the integrity of BSC Central Systems. The details of this analysis are included as Annex 1B.

4.7 Alternative Modification

The P100 SSMG did not identify an Alternative Modification.

5 IMPACT ON THE CODE AND BSCCO DOCUMENTATION

5.1 Balancing and Settlement Code

Draft legal text is provided as Annex 6 of this Report.

6 IMPACT ON CORE AND OTHER INDUSTRY DOCUMENTS

No Impact has been identified on Core Industry Documents.

6.1.1 Code Subsidiary Documents – BSCP 15, BSCP 31, BSCP 65, BSCP 509

- BSCP 15 'BM Unit Registration' would be significantly impacted by P100. In particular, new Supplier BM Units and Exempt Export BM Units would need to be allocated to the appropriate Base Trading Unit at initial registration. The administration of SMRS registered Exempt Export BM Units will also need to be formalised.
- BSCP 31 'Registration of Trading Units' would need to reflect the new Base Trading Units envisaged by P100.
- BSCP 65 'Registration of Parties and Exit Procedures' may be impacted as a result of P100.
- BSCP 509 'Changes to Market Domain Data' may also be impacted as a result of P100.

6.1.2 Other Configurable Items

- P100 may have an impact on the NETA Data File Catalogue (NDFC), the Interface Definition Document (IDD), the CRA User Requirements Specification (CRA URS) and the SVA Data Catalogue..
- P100 would impact on the Business Process Model (BPM).
- A number of other documents owned by the Transmission Company or by the BSC Central Service Provider may also be affected.

7 IMPACT ON ELEXON

The Service Delivery Department at ELEXON will be responsible for overseeing the implementation of P100 as well as the continual adminstration of Base Trading Units, should P100 be implemented.

If P100 were implemented as a stand-alone project, ELEXON would also incur additional costs (currently estimated as 250 man days plus audit costs). In addition, there would be a significant impact on the project lead time. The details of this analysis are included as Annex 1B. ELEXON's analysis also indicates that implementing P100 as a stand-alone project would entail significant risk for the standard releases planned in June 2003 and November 2003. If P100 is to be implemented, ELEXON recommends that the software implementation should be achieved as part of a standard release in order to maintain the integrity of BSC Central Systems.

8 IMPACT ON BSC PARTIES

BSC Parties foresee minor impacts on their systems and processes.

It must be noted that, should P100 be implemented, existing Class 4 Trading Units would be deregistered automatically. As a result, all Supplier BM Units, all SMRS registered BM Units composed of Exemptable Generating Plant and all participating Exempt Export BM Units would be registered in the Base Trading Unit for their GSP Group. ELEXON expects that the Lead Parties of all impacted BM Units would be notified in due course. It should also be noted that relevant BM Units may be asked to identify themselves to ELEXON as "Exempt Export BM Units" in order to benefit from P100.

The P100 SSMG also considered a variety of commercial impacts that P100 might have on BSC Parties and licence exempt generators. In particular, it was noted that a number of licence exempt generators might choose to register Exempt Export BM Units, should P100 be adopted. The P100 SSMG felt that these new BM Units would be likely to register in the CMRS.

9 SUMMARY OF REPRESENTATIONS

A consultation was issued on 13 November 2002 to all BSC Parties and certain non-BSC Parties representing licence exempt generators. Responses were also invited from other interested persons via the ELEXON web-site. As a result, 14 responses (representing 46 BSC Parties and 5 non-BSC Parties) were sent before the consultation deadline on 26 November 2002. In summary, 6 responses (4 BSC Parties, 5 non-BSC Parties) supported P100 whilst 7 responses (41 BSC Parties) did not support P100. One response (1 BSC Party) was `No Comment'.

The consultation responses were considered by the P100 SSMG at their final meeting on 28 November 2002. It was decided that the responses elaborated well-known arguments for and against P100, but did not contain any new substantial ideas. The group also agreed that the weight of the arguments received via the consultation process mirrored the even split within the Modification Group.

The consultation responses are reproduced in Annex 4 of this report.

ANNEX 1A – BSC AGENT IMPACT ASSESSMENTS

The Detailed Level Impact Assessment (DLIA) undertaken by the BSC Central Service Provider is included below:

NETA Change Form	ELEXON Reference
	A.1.1.1 MP100

Title	Version No.
Extension of Demand-side Trading Units in order to increase the competitiveness of the market for embedded benefits.	A.1.1.4 Version 1.0
	A.1.1.5 **Logica Reference**
	A.1.1.6 ICR438

Type of Assessment	Date CP Received	Date IA Issued
A.1.1.7 DLIA	A.1.1.8 15-Nov-2002	22-Nov-2002

Brief Summary of Change

This modification is to provide default Trading Units for Supplier and Export Exempt Embedded BM Units. In order to facilitate this, CRA needs to know which CVA BM Units are Export Exempt.

Further, all Export Exempt BM Units (CVA & SVA) are permitted to explicitly specify their P/C account and so CRA also needs to know which SVA BM Units are Export Exempt.

A.1.1.9

A.1.1.10 The proposal suggests creation of two new BM Unit types. This analysis proposes an alternative where Export Exempt status becomes an attribute (for reasons discussed below).

A.1.1.11

Logica's Proposed Solution

Software Changes

Requirement 1 (see MP100 Requirements Specification attached):

1. Add a new field "default TU flag" to BM Unit details to indicate whether the BM Unit is a member of the default GSP Group Trading Unit (can only be set for Export Exempt embedded BM Units and for Supplier BM Units. Defaults state for a new BM Unit is set). When the flag is set, the assignment to the default GSP Group Trading Unit is automatic, when it is cleared, any assignment to the default GSP Group trading unit is removed, the BM Unit can be manually associated with an explicit trading unit (i.e. behaviour as present). Note any change in TU assignment using this process will result in recomputation of trading unit PC flag as present
2. Prevent the "default TU flag" from being set if the BM Unit is already assigned to a trading unit. The BM Unit would need to be manually removed (via the same form) from it's existing trading unit first.
3. Add new flag to BM Unit which can only be set for Embedded and Supplier Additional BM Units which indicates that the BM Unit is export exempt (this avoids the need for knowledge of new BM Unit types elsewhere). The flag will be a time-variant attribute of BM Unit which could be changed over time - allowing for the case where a generator ceases to be export exempt.

Requirement 2 (see MP100 Requirements Specification attached):

4. Create default GSP Group trading unit for existing GSP Groups.
5. Create script for one-off modification of BM Unit type (see requirement 5 as specified). It would then set "export exempt flag" (if requirement 5 alternative) and "default TU flag", assign the BM Unit to the appropriate default trading unit and compute the trading units' PC flags.

Additional Option 1 (as requested by ELEXON following HLIA):

6. Amend reports which include BM Unit type to also report the exempt flag.

Additional Option 2 (as requested by ELEXON following HLIA):

7. Amend CRA section D reporting to separately count Export Exempt BM Units.

Other Changes

1. Manual process to create a new default trading unit whenever a new GSP Group is created and keep it in step with any other modifications to the GSP group.
2. Changes to BM Unit registration process to handle Export Exempt BM Units and assign them to the default trading unit.

Deviation from ELEXON's Solution / Requirements

Requirements as per ELEXON request following HLIA (see also attached memo).

Operational Solution and Impact

Checking BM Units Exempt Export BM Unit status, enter P/C flags and liase with participants. (This is deemed to not change, despite the reduction in requirements.)

Testing Strategy

Unit	✓	Change Specific	✓	End to End	
Module	✓	Operational Acceptance		Participant Testing	
System		Performance		Parallel Running	
Regression	✓	Volume		Deployment/ Backout	

Other:

Core Business Functionality Testing

- Regression Scripts RT-01, RT-02 perform data set-up and these will be executed in both Dry and Main runs.
- The Regression Script RT-06 will need updating to take account of the changes to the Maintain BMU details form.
- Regression Script RT-04 will be subsumed within one of the new Change-Specific tests.

System Testing

- No System tests need updating or executing.
- No Performance tests need to be conducted.

Change Specific Testing

- Two new test scripts will be developed to handle the new P100 functionality. These new tests will cover the following functionality:
  - running the one-off script to modify BMU types already in the CRA database,
  - regression testing the SAA settlement calculation,
  - registering a new default GSP group Trading Unit on CRA,
  - testing the changes to the Maintain BMU details form by modifying/adding new BMUs,
  - using the new Trading Unit and modified BMUs in a settlement calculation.
- These tests will be executed in Dry and Main Runs.

Assumptions

- Regression testing will involve tests RT-01, RT-02 and RT-06 only.
- Regression test RT-04 will be subsumed into one of the new change-specific tests.
- No CDCA, BMRA or ECVAA testing (either Regression or Change-specific) is required
- No estimates have been included for any Performance/Volume testing (not necessary).
- No estimates for running any Functional Area Tests (FAT) have been included.
- Estimates for changes to existing regression test scripts have been included - for use in subsequent testing.
- Estimates for changes to existing data population scripts (for test and live data) have been included - for use in subsequent testing.

Validated Assumptions

1. Requirement 3 has been excluded from this assessment as it is deemed to have been covered by OR5892.
2. There will be no explicit checks to prevent explicit allocation of a non-export exempt BM Unit to a default trading unit, as this would be prevented or allowed through the existing trading unit approval process
3. CRA-I015 to MDD will continue to indicate default/non-default. It will not include exempt status.
4. Section D charges recognise the distinction of export exempt BM Units - an allowance has been made to change the existing reporting to identify these.
5. *For requirement 2, ELEXON will supply a file/email/spreadsheet listing the BM Units which are Export Exempt.*

Outstanding Issues

None.

Changes to Service

Services Impacted

	BMRA	CDCA	CRA	ECVAA	SAA	TAA	Other
Software			✓				
IDD Part 1 (Docs)			✓				
IDD Part 1 (S'Sheet)			✓				
IDD Part 2 (Docs)							
IDD Part 2 (S'Sheet)							
URS			✓				
SS			✓				
DS			✓				
MSS			✓				
OSM			✓				
LWIs			✓				
RTP	RT-01, RT-02, RT-04, RT-06						
Comms							
Other							

Nature of Documentation Changes

IDD Part 1 Doc (CRA-I005, CRA-I020)
IDD Part 1 Spreadsheet (CRA-I020)

Nature / Size of System Changes	
Medium	
Type of Release Costed:	A.1.1.12 Interim (Patch)
Deployment Issues, e.g. Outage Requirements:	None.
Impact on Service Levels:	None.
Impact on System Performance:	None.

Responsibilities of ELEXON

- For all DCRs which are subject to review, Logica shall provide one draft issue and a maximum of 5 working days has been allowed for ELEXON to review and comment on the updates. Comments will be addressed and the final issue will be provided. A maximum of 2 working days has been allowed for review confirmation and signoff by ELEXON.
- Within reasonable levels, ELEXON will make available appropriate staff to assist Logica during the development of this change.
- For requirement 2, ELEXON will supply a file/email/spreadsheet listing the BM Units which are Export Exempt

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

None.

A.1.2 Attachments

MP100 Project Plan
MP100
MP100 Requirements Specification
MP100 DLIA request memo

A.1.2.1.1 PRICING

Price Breakdown			
A.1.2.2	**Item description**	**Remarks**	**Price (ex VAT)**
A.1.2.5	Change Specific Cost	Requirements 1 & 2 A.1.2.6 Additional option 1 Additional option 2 TOTAL	£149 800 £7 900 £4 300 £162 000
A.1.2.7	Project Overhead	A.1.2.8 Management and release costs.	£175 300
Total Price (ex VAT)			£325 100 (this excludes additional options)
Project Duration			15 weeks (see attached plan)
Operational Price (e.g. per annum or event) (ex VAT)			£910 per annum
Rationale			
See attached Price Breakdown.			
Annual Maintenance Price (ex VAT)			£47 992
Rationale			
The Annual Maintenance Price is derived as 14% of the Total Price.			

Validity Constraints
• Price excludes provision for indexation of daily rates from 1st April 2003. • Price and duration assume that this change is developed in isolation and the effects of other changes are excluded. • No allowance is included in the price for Service Descriptions being different from the Change Proposal. • Price is for creating DCRs, not a formal documentation issue. • Operate and maintain charges will be invoiced monthly in arrears. • No allowance has been included for supporting PWC activities. The validity period for this quote is 30 days and the offer is based on the following payment milestones:- • Logica will invoice 30% on receipt of Purchase Order or authorised start of work, 50% on completion of acceptance tests, 20% on deployment or one month after completion of acceptance tests, whichever is sooner.

Authorised Signature	Date Signed
	22-Nov-2002

ANNEX 1B – ELEXON ANALYSIS OF P100 AS A STAND-ALONE PROJECT

Mod No.	P100	**Title:**	Extension of Demand-side Trading Units in order to increase the competitiveness of the market for embedded benefits		
Assessor Name	Phil Clinch	**Assessor Team**	CVA Programme	**Date**	2nd December 2002

Modification Summary: see modification

Summary of solution(s):

P100 as a 'stand alone' project: This re-assessment has been carried out to assess the impact on the CVA Programme of implementing Modification P100 as a stand alone project ie NOT as part of a scheduled release.

Modification P100 requires a change to the Central Services software, the BSC and to code subsidiary documents.

The CRA system is likely to require changes to accommodate a LEG 'flag' top identify LEGs, Section K, BSCP15 and BSCP31 will require changes to accommodate the changes defined in this Modification.
This is a not a major change to the CVA systems but, since it involves a software change, it would need to be carried out as part of a CVA Programme scheduled release.

Metrics used for Products Affected in table below:

Review documents - 3 days

Amend documents - 5 days

Create documents - 10 days (Test Reports – 5 days)

Product Affected Reference	**Target Issue** Decision + Logica + 3 months	**Cost of Embodying CP – Man Days**
Code and Code Subsidiary Documents		
• BSC Section K		5
• BSCP15		5
• BSCP31		5
Testing of Code Documents		
• Walkthrough spec for BSCP31 changes		10
• Walkthrough delivery		3
• Walkthrough Report		5
Logica Products		
• IDD Part 1		3
• IDD Part 2		3
• CRA software to add a 'flag' for LEGs		-
• CRA URS		3

• CRA Design Documents (SS, DS and MSS)
• CRA OSM
• CRA Service Description
• Testing documentation
  • Change specific testing
  • Regression testing
  • Deployment testing
		3 x 3
		3
		3
		
		3
		3
		3

ELEXON Products and Activities for Standalone Project
• Plans
  • Project plans / resource &budget
  • Test strategy
  • Participant Test Specification
  • Participant Test Report
  • Deployment plan
• Technical Products
  • Release Business Requirements Solution
  • BPM
  • NETA Data File Catalogue
• Test management
• Weekly overhead management @ 2 days a week for 27 weeks
		
		15
		10
		10
		5
		10
		
		10
		5
		5
		10
		54

CVA Programme total man-days		200 man-days
ELEXON Assurance total man-days (1.5 days per week for 27 weeks)		45 man-days
Audit costs for PwC		10% of Logica software costs

Impact on other Systems [3]

Assumptions[1] **–**

1. This impact assessment is for P100 implemented as a stand alone project based on Logica's Impact Assessment.
2. Test Strategy includes Change Specific testing, Regression testing, Participant testing and Walkthroughs.

Issues and Risks[1] **–**

Related CPs[1]

1.1.1.1

[3] This field is not mandatory

Comments[1]

ANNEX 2 – ARGUMENT PAPER SUBMITTED TO THE P100 SSMG IN SUPPORT OF P100

Modification P100 and embedded benefit ownership

At the P100 meetings, the central issue for debate has been:

- whether embedded benefits are earned by suppliers by contracting to avoid use of the transmission system; or
- whether they are earned by embedded generators offsetting local demand and thus causing avoidance of the transmission system.

The Proposition

1. The industry has debated embedded benefit for a dozen years and has come to a consensus that they are payable for avoidance of use of system – an essentially physical phenomenon.
2. Ofgem uses this description in deciding in favour of P7: "*The rationale behind permitting access to embedded benefits is based on the fact that embedded generation is deemed to net off local demand and does not utilise the transmission system.*"
3. If it is physical then contract shouldn't determine it – P7 allowed different parties to avail themselves of it, P100 simply extends this.
4. If all parties agreed to a single GSP Group Trading Unit then full embedded benefits would be payable to the meter registrants, as proposed. It is therefore outside the remit of the Mod Group to determine the overall impact (e.g. what happens when there is more embedded generation than demand) – if payment of embedded benefit is legitimate then it is legitimate for all embedded generation on the same terms.
5. If there is no physical generation there is no embedded benefit.
6. Physical demand occurs regardless of the existence of embedded generation.
7. Nothing in P100 prevents suppliers being responsible for procuring energy to supply customers. The main import is that suppliers can procure sufficient transmission services to support the supply of energy; but that if any meter registrant procures embedded generation so reducing use of the transmission system, this should be directly recognised. This is similar in principle to the provision of ROCs by eligible generators, the value of which is recognised regardless of who actually buys the ROCs and of the fact that the buyer may be a different person from the person who purchases the energy.

Commentary on the Other View

1. *Embedded benefit is the avoidance of charges but charges must be incurred before they can be avoided and these charges are incurred by the Supplier.*
    a. Embedded benefits reflect the avoidance of use of system. The charges are the means of recovery of transmission revenues and the only concern is that the transmission company gets the allowed revenue.
    b. The supplier is required to pay transmission charges at rates calculated by the NGC Charging Methodology. The intent is that the charges are in some way proportionate to use of the system by the supplier in serving customers. Rebating charges for avoidance of use of system should equally be proportionate to that avoidance, not related to the gross use.

However although suppliers bring demand (which allows embedded generation to be absorbed locally) it is the customers themselves who create it and there is still demand to offset the embedded generation, regardless of the identity of the supplier.

If there were no supplier, there would still be demand to offset the embedded generation – customers create demand, not suppliers.

2. *Suppliers are responsible for customers and so they are the only legitimate parties in terms of rebates.* The following points can be made in that context.
    a. LEGs are not customers under the licence and so suppliers do not need to be registrants for them. The Charging Methodology Statement makes it clear that the relevant entities are BMUs and Trading Units for charging purposes although TNUoS is still paid to/by "suppliers". This is not the case for BSUoS, even though logically the provision of transmission services is more immediately enabling energy to reach customers whereas the provision of the network only does so indirectly.
    b. If the supplier procures embedded generation then they avoid the system being used. However system avoidance is still proportional to physical generation and so the supplier or other meter registrant is causing avoidance of use of system regardless of the level of contracted demand associated with the meter registrant. This should be recognised (as it is recognised under P7).
    c. Nothing in P100 prevents suppliers procuring transmission services.

3. *Embedded benefit for generators is derived from avoidance of generator TNUoS, BSUoS, etc.*

    However -
    a. The supplier's central role is to contract for generation and bill customers.
    b. If they contract across the system they pay transmission charges directly on their metered offtake and also indirectly because generator TNUoS and upstream BSUoS/Losses/Elexon charges are all incorporated in the wholesale price.
    c. It follows that under the current arrangements, if suppliers own embedded benefit, then they acquire all these savings and it is wrong to argue that embedded generators benefit from avoided TNUoS

ANNEX 3 – ARGUMENT PAPER SUBMITTED TO THE P100 SSMG AGAINST P100

Embedded benefits and the effect of P100

This short note looks at the principles of gross and net charging of transmission related charges and embedded benefits. It looks at the effects of P100 in relation to BSUoS charges in particular and concludes that the adoption of P100 could lead to cross subsidies between suppliers, or between suppliers and LEGs.

First it is appropriate to look at the basis under which charging for transmission could take place. There are two broad charging approaches which work on the basis of volumes consumed or generated.

Gross charging

This simply charges all participants generation or demand transmission charges based on their gross volumes, regardless of trades which take place between participants within a distribution network or GSP Group. The argument for this is that all participants benefit from the stability and security that an integrated system provides and should therefore pay for it.

Net charging

Under net charging participants are charged on their net usage of the transmission system. Therefore, if they trade with each other within the distribution system or GSP Group they are not required to pay charges on that amount of energy. This requires generation and demand to net off against each other and both avoid charges from doing so. The argument for this basis of charging is that in netting off against each other, embedded generation and demand are effectively not using the transmission network and therefore should not be charged as if they were. The current system works on the basis of net charging.

What are embedded benefits?

Embedded benefits only exist under a net charging regime and can be split into those that arise because embedded generators directly avoid NGC charges and those that arise because the associated supplier avoids charges. In general, LEGs can realise the first type of benefit without having a relationship with a supplier, as they are not required to sign up to the agreements through which the charges are levied. However, if a LEG wishes to operate in the Balancing Mechanism then it is necessary for it to form a Trading Unit, with one or more suppliers, with demand greater than its LEG output to avoid generation charges.

The second type of embedded benefit, the reduction in supplier charges, also can be realised by suppliers as a whole without any contractual relationship between the LEG and the supplier. If the generator is not registered in BSC systems the generation will reduce the amount of GSP Group Take in an area, which will result in lower metered volumes for suppliers. However, this effect is smeared across all suppliers in an area through the GSP Group Correction Factor in proportion to their share of the GSP Group's Non Half Hourly metered customers' demand. In reality, suppliers wish to contract with generators and acquire all or most of this benefit for themselves. Again, to do so the LEG has to be registered so that its output can be measured, and a trading unit has to be formed as above. As an incentive to attract LEGs to contract with them in this way, suppliers are typically willing to pay a sum of money to the LEG equivalent to a proportion of the savings they make. This proportion is a matter of commercial agreement between the LEG and supplier/s.

Prior to the introduction of P7 a trading unit could only be formed against a single supplier's demand. This meant that embedded generators were restricted to finding a supplier with demand in the GSP Group large enough to accommodate their generation. P7 allowed more than one supplier to aggregate their demand into a larger trading unit so that smaller suppliers

could access embedded benefits for themselves and allow LEGs to access embedded benefits too.

Who creates embedded benefits?

Do embedded benefits arise because of the pairing of embedded generation and demand, or are they delivered simply by virtue of the embedded generation being there?

In the description of the defect for P100 the proposer quotes Ofgem's P7 decision which states "The rationale behind permitting access to embedded benefits is based on the fact that embedded generation is deemed to net off local demand and does not utilise the transmission system." It must follow that the demand the embedded generation nets off also does not use the transmission system. Embedded generation cannot realise embedded benefits in the absence of demand and demand cannot realise them in the absence of embedded generation. Both play a part and consequently both gain an embedded benefit. This is the reduction in each of their charges to the extent that they net off against each other.

What is the problem with proposal P100?

P100 represents a mandatory extension of the P7 solution to cover the whole of a GSP Group. It is true that suppliers could already do this on a voluntary basis. The fact that P100 compels suppliers to do so is a crucial difference.

A way to illustrate this is to use the figures from the example used in Elexon's analysis of embedded benefits for P100. This considers a situation where there are three BMUs, two for the demand of two separate suppliers and one for the generation of a LEG as follows:

Supplier 1	Demand =	-100MWh
Supplier 2	Demand =	-10MWh
LEG	Generation =	+ 20MWh

An assumption that we introduce for this illustration is to imagine that these are the only participants in the GSP Group. Under P7, the three parties could form a trading unit containing all three BMUs. This would have an effect on the realisation of a number of benefits, but it is sufficient to look at the case of BSUoS to illustrate the problem of the P100 principle.

BSUoS is charged to a Trading Unit based on its net volume. However, NGC makes payments to and from the Lead Party of the BMUs which make up the Trading Unit, i.e. the party with which NGC have the contract. They do this simply by charging those BMUs with volumes the same sign as the net volume of the Trading Unit and making a refund to those BMUs with volume with the opposite sign to the Trading Unit's. For example, with a BSUoS charge of £1/MWh the charges/payments would work out as follows for the above situation.

Net Trading Unit volume is –90MWh

Supplier 1 BMU is charged	£100
Supplier 2 BMU is charged	£10
LEG BMU is charged (paid)	– £20
= Net Trading Unit Charge	£90

This results in the correct charge for the Trading Unit, but consider the individual aspects of this. Suppose, under P100, the LEG BMU is registered by Supplier 2. This is the most likely situation, as LEGs do not often register their own BMUs.

Therefore, the payments on a Supplier basis are as follows:

Supplier 1 is charged	£100
Supplier 2 is charged (paid)	–£10

The first thing to note is that instead of avoiding charges associated with its demand, Supplier has actually made money out of BSUoS. It has provided 10MWh of demand to be netted against generation, but has gained double the saving in its charges.

Additionally, as in our example these are the only participants in our simplified distribution system, Supplier 1 is charged £10 more than NGC has to recover in total for BSUoS and this is passed Supplier 2. What this example illustrates is that this does not represent cost recovery, but a redistribution of income or cross subsidy. This was not a problem under the situation where only one supplier could form a trading unit, which was the rule under which the NGC mechanism was originally created, as this simply reflected payments between one party's BMUs and same net result was achieved for the party concerned.

Of course this is something that could happen under P7 at present. However, all parties are required to consent to the setting up of the Trading Unit at present. Therefore, Supplier 1 could ensure that this cross subsidy is recovered through appropriate contract terms with the other parties. However, under P100 all suppliers will be mandated to form the P100 "Super Trading Unit" and will be powerless to avoid this sort of cross subsidy.

If the LEG were to become registrant of the BMU the degree of cross subsidy would increase. In the example above, £90 of BSUoS would need to be recovered from the GSP Group, but £110 would be charged to suppliers 1 and 2 with £20 being redistributed to the LEG.

Conclusion

Embedded benefits for LEGs and Suppliers are the charges that both avoid by avoiding use of the transmission network. P100 would provide a mechanism which could deny suppliers the ability to achieve their embedded benefits by providing a cross subsidy between different suppliers, or between suppliers and embedded generators.

ANNEX 4 -- ASSESSMENT PROCEDURE CONSULTATION

Responses for P100 Assessment Consultation
(Consultation issued on 13 November 2002)

Representations were received from the following BSC Parties and non-Parties:

No	Company	File Number	No. Parties Represented	No. of non-Parties (persons or commercial entities)
1.	SmartestEnergy	P100_ASS_001	1	0
2.	NGC	P100_ASS_002	1	0
3.	Innogy	P100_ASS_003	8	0
4.	Aquila Networks	P100_ASS_004	1	0
5.	Phillip Russell	P100_ASS_005	0	1
6.	British Sugar	P100_ASS_006	0	1
7.	Scottish Power	P100_ASS_007	6	0
8.	Alcan Primary Metal	P100_ASS_008	0	1
9.	Powergen	P100_ASS_009	15	0
10.	British Gas Trading	P100_ASS_010	3	0
11.	Slough Energy	P100_ASS_011	2	2
12.	LE Group	P100_ASS_012	7	0
13.	Immingham CHP	P100_ASS_013	1	0
14.	British Energy	P100_ASS_014	1	0

P100_ASS_001 – SmartestEnergy

Company: SmartestEnergy Limited, (Robert Owens).
Parties represented: 1

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptible Generators be affected in practice?	**Views:** Parties who currently do not deal with LEGs would be unaffected. LEGs would have greater freedom to contract with a larger number of service providers (be they Suppliers, consolidators or other) or if they are a BSC Party, greater access to market without having to involve other Parties.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: Suppliers would lose the position of market power that they enjoy. Suppliers could be seen as the middle point by which power gets from the generator to the ultimate consumer. Effectively the embedded benefits that they currently share (and claim as their own) are directly as a result of the existence of the consumers who generally receive no share of the embedded benefits that they help to create (in conjunction with the Generators). For example it could be that a particular Supplier collects the Triad benefit from a LEG and as a result pays a reduced amount to NGC for his Triad – the Customer generally still gets charged the full "cost" of his consumption at Triad. Suppliers may argue that their prices reflect this reduced cost as a whole, but there is little evidence to support this – and in any case this subsidy could give them an unfair advantage against small suppliers if they are able to reduce their prices as a result of their current control of embedded benefits. It is possible, therefore, to view embedded benefits as not in the first instance belonging to the Supplier but to the market. It is perhaps more appropriate to view embedded benefits as an incentive to provide all the recognised advantages of satisfying local demand with local generation. This leads to the call for the benefit to be assigned to the LEG who can be incentivised to generate and provide the benefit to the system as a

	whole, in a way that the Supplier never can (or indeed the Consumer, who for the most part has limited control over the demand side of the equation and indeed paying him embedded benefits may not be sending the appropriate signal, aside from the obvious contractual issues) If this situation were to lead to a massive expansion in the number of LEGs, to such an extent that the GSP group became a net exporter, the embedded benefits incentive would divert to Suppliers (who are now the opposite to the Trading Unit as whole, i.e. Consumption in a Production Trading Unit) which would remove the incentive from LEGs to expand leading to a natural equilibrium.
Q. Do you agree with the Proposer's view that Licence Exemptible Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** Rationale: There is often only a small number of Suppliers in any given GSP group that have the capacity, or are willing, to allow the LEG to realise the benefits available, hence restricting its contracting options. In addition as outlined above this effectively limits the access to embedded benefits and potentially distorts the market signals that they can provide
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptible Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**YES** Comments: Currently the Suppliers within a GSP group can use embedded benefits as a tool to exclude or restrict competition. Effectively they can cross subsidise the electricity price by offering a higher share of embedded benefits directly to the LEG than they do to other parties (Consolidators/small Suppliers) who would be unable to get the embedded benefits without the larger Suppliers Trading Unit and co-operation.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**NO** Comments:
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**YES** Rationale: For the reasons stated above.

Would you like to make any further comments relevant to the Assessment Procedure for P100? YES P100 is being mirrored in philosophy by NGC's Proposed Change to the TNUoS Liability Rules for Embedded License Exemptible Generation and Distribution Interconnectors (UoSCM-M-07). It is important that P100 is progressed at the same speed and in conjunction with the proposed NGC TNUoS charging methodology to ensure that LEGs are not disadvantaged in the interim by any inconsistency.

P100_ASS_002 – NGC

Company: National Grid
Parties represented: One (Transmission Company)

Question	**Response**
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** Our view is that Licence Exemptable Generators, depending upon other commercial factors, would be more likely to move from SVA to CVA to realise the full benefits of BSUoS, Transmission Losses and Elexon Charges.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: If a LEG is in an existing trading unit with a single supplier then with P100 any (TNUoS) benefits will be reduced as it will be divided up between the many suppliers in the GSP group on a pro-rata basis rather than between the two parties as now.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**UNABLE TO COMMENT** Rationale: As we have no direct knowledge of the commercial arrangement between a Supplier and LEG, we feel it would be inappropriate to comment.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**NO** Comments: The analysis provided in the draft assessment report is inconclusive. The total market data shows that there is an "intermediate" structure (consistent with an emerging market) where there is one dominant Supplier ID per GSP group and an number of other Supplier Ids with a market share over 10%. P100 may allow full realisation of the BSUoS, Transmission Loss and Elexon Charge benefits, but the argument given in the answer below applies for

	TNUoS.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES** Comments: Whilst not strictly under the governance of the BSC, the analysis does not bring out the effects if P100 were to be introduced under the existing TNUoS charging baseline. For example, under P100 and existing charging methodology, the TNUoS benefits in a GSP group wide trading unit would be divided amongst all the supplier BM Units on a pro-rata basis according to the demand take. Therefore, the LEGs would still be required to enter negotiations with potentially many counter-parties to recover any TNUoS benefits.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**NO** Rationale: Until we are convinced that there is a problem to be solved, we cannot support a re-balancing of the benefits distribution. Therefore, we are not persuaded that P100 better facilitates the BSC objectives.

Would you like to make any further comments relevant to the Assessment Procedure for P100?

The TNUoS Benefits as mentioned in the draft Assessment report are currently subject to a National Grid Charging modification proposal (UoSCM-M-07: "Proposed change to the TNUoS Liability Rules for Embedded Licence Exemptable Generation and Distribution Interconnectors"), which may have a decision from the Authority before P100 reaches the Report stage. This proposal would significantly alter the baseline for TNUoS and could affect the perceived defect the modification is intending to address.

P100_ASS_003 – Innogy

Company: Innogy plc
Parties represented: Npower Ltd, Innogy Cogen Ltd, NP Cogen Trading Ltd, Npower Direct Ltd, Npower Northern Ltd, Npower Northern Supply Ltd, Npower Yorkshire Ltd, Npower Yorkshire Supply Ltd.

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** To gain benefit from being (a) embedded and (b) within a P100 TU, a LEG would offer volume to individual suppliers, hoping competition between those suppliers would increase the LEG share of the embedded benefits above current levels. However, this percentage will not go above a certain level, since, at some point the costs and overheads involved in contracting with the LEGs will outweigh the benefit

	retained at supplier end. There may also be a consequential impact on the energy prices that LEGs face. By reducing the benefits retained by suppliers, the costs of dealing with embedded generators will have to be recovered through other means. The trading choice facing suppliers at this point would be to contract with LEGs, with all the associated costs, or to contract with larger generators OTC on pre-negotiated terms, i.e. GTMA, with no imbalance risk and the only incremental costs being that of notification. The latter entails costs of non-standard contracts with individual terms and associated negotiation costs. Consequently, since the cost of contracting is higher, the energy price may well be discounted, in order to maintain prices facing customers.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: The practical outcome of P100 is currently achievable through an, admittedly complex, P7-style Trading Unit. However, the reason that no application of this kind has been made is that the costs must outweigh the benefits. Consequently, it stands to reason that, if implemented, additional costs would be incurred by Suppliers and ultimately their customers.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**NO** Rationale: It is generally acknowledged that the industry has an oversupply of generation assets. Licence Exempt Generators are unfortunately part of that oversupply. However, we do not believe the P100 would resolve this issue, it could only be resolved through a more fundamental review of the structure of the industry, which is not within the remit of the BSC, and is not addressed by this modification.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**No (for the second question)** Comments: Again, whilst it may be true that problems with the current market structure impact certain parties differently, these problems will not be resolved through this modification.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded	**YES**

benefits?	Comments: The analysis states that there may actually be fewer suppliers available for contractual arrangements, due to multiple supplier Ids being combined into a single commercial entity. Whilst this may very well be true, it is worth noting that this would not be addressed through P100, but is due to the reasons stated ion previous answers. On a smaller matter, the analysis on the number of potential suppliers does not contain any dates pertaining to the data.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**NO** Rationale: P100 does not actually address the defect as described within the Modification. We do not believe that an appropriate solution to the perceived defect is actually within the *vires* of the BSC.
Would you like to make any further comments relevant to the Assessment Procedure for P100? The current sharing of embedded benefits underwrites the cost to suppliers of dealing with embedded generators. Under P100, CVA LEGs will in effect be offering their energy at the forward curve price in competition with all other players. In practice the TNUoS payment may erode the forward curve since a certain category of player is effectively receiving a subsidy.	

P100_ASS_004 – Aquila Networks

Please find that Aquila Networks Plc response to P100 Assessment Consultation is 'No Comment'.

regards
Rachael Gardener

Deregulation Control Group &
Distribution Support Office
AQUILA NETWORKS

P100_ASS_005 – Phil Russell

Respondee: Philip Russell
Parties represented: 0

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** See below
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of	Depends on your view of "disbenefit". From a Supplier's perspective the effect of P100 would be

P100?	that they may have to pay more money for the same volume of purchases. From the Exempt Generators perspective there is no disbenefit to Suppliers collectively as they will all be in the same position.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** Rationale: The data in the draft Assessment report would appear to indicate that this is true in relation to the largest Exempt Generators in a GSP Group. It is less certain in respect of the small Exempt Generators.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	Comments: Do not really understand the relevance of this question in the context of P100 given the previous question.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES / NO** Comments: It is factually correct.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**YES** in respect of c) not sure what relevance d) has. Rationale: By providing a clear route by which the Exempt Generators can access the value of the avoided charges themselves without requiring a Supplier to register their Metering Systems it is likely to result in a greater amount of generation from these sources being available to the market (in terms of trading energy) and hence promote competition in the generation of electricity.
Would you like to make any further comments relevant to the Assessment Procedure for P100? Yes, on Implementation Issues – see 2 below.	

1. There are a number of plausible scenarios. It maybe that Suppliers will be willing to offer the Embedded Gens almost all of the value of their avoided charges and a market based price for the energy. In this case the Exempt Generators will continue to be registered in SVA by Suppliers and no changes will be seen at all.

   At the other extreme it may well be that Suppliers do not reach agreement with these Exempt Generators for the purchase of energy (of which the Embedded Benefits is only part) in which case the LEGs will have no alternative but either to join the Code themselves and transfer their Metering Systems from SMRS to CMRS (because they are not allowed to register them themselves in SMRS without a Supply Licence) or create an "umbrella company" to do this and trade energy for them collectively.

A third scenario would be a half way house where the larger Non Renewable Exempt Generators would accede to the Code and transfer their Metering Systems to CMRS whilst the small Non Renewable ones would stay with Suppliers in SMRS in order to avoid the hassle and the Renewable Exempt Gens would accrue sufficient value from ROCs or LECs within their energy price to remove any incentive they may have to join the Code themselves.

In summary, P100 would facilitate a better deal for some LEGs but will not guarantee it.

2. In order for the Central Systems to allocate the relevant TLM to the output from the LEGs it needs to know the Total Trading Unit Metered Volume. In order to know this the Central Systems must know which BM Units are in the Base Trading Unit. As the Base Trading Unit is defined in the Mod Proposal as the GSP Group it is necessary to know the relationship between BM Unit ID, the BM Unit Type and its GSP Group. As the only BM Units that can constitute a Base Trading Unit are Supplier BM Units and LEG BM Units and these types of BM Units are already recorded in CRA along with the GSP Group to which they relate, the necessary data exists though the creation of the BTU does need to be done. The definition used in the Mod effectively excludes Embedded Station Demand BM Units and embedded customer demand associated with a (normal) Trading Unit. As Supplier BM Units are either Base BM Units or Additional BM Units, both types will need to be included in the setup together with a process for ensuring that new Supplier BM Units in the GSP Group are added and/or removed when new Supplier Parties are established or Withdrawn.

   If a LEG BM Unit elects to opt out of the BTU and does not establish its own TU then the LEG BMU would be treated like any other delivering TU. I am less clear what happens if it wants to / is allowed to create its own TU in the GSP Group. Does the demand that is associated with the LEG that has opted out get excluded from the BTU Metered Volume?

P100_ASS_006 – British Sugar

Company: British Sugar
Parties represented: None. We are a LEG, and not part of a large vertically integrated electricity company. We buy electricity for 200 sites.

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	Different parties will be affected in different ways: **Exemptable generators** like us will clearly benefit from this mod in that we will be able to get closer to the NETA markets without being held to ransom by the large vertically integrated companies who dominate the supply market in our GSPG. We had to re-contract two plants last week. There appeared (we cannot know until/unless P102 is passed) to be three companies who we could trade with and still realise embedded benefits. These companies all have large generation portfolios and largely buy from themselves. Indeed, one refused to buy our output on any terms and another gave an offer well below

	market rates. Without P100 we had to carry out artificial and complex negotiations to access embedded benefits with these companies whilst selling our output to someone who was prepared access the NETA markets on our behalf. With P100 we will be able to get our power to the market without this problem. This will mean that independent consolidators will be able to compete with the large supply companies on more equal terms to buy power from LEGs. Inevitably this will mean that LEGs will be able to contract with parties other than the dominant supply companies to a greater extent. **Non Physical trading parties**: should have more ability to trade output from LEGs who would otherwise be forced to sell direct to supply companies. This should increase liquidity at the smaller volume end of the NETA markets significantly over time. Smaller suppliers will be able to contract power with people like us without being beholden to the large companies (their competitors!) due to the embedded benefits rules. Large Suppliers will be exposed to more competition. In our case, three potential counterparties (and their behaviour) demonstrated a market with too much concentration (which is increasing post TXU) and P100 will free this off (with regards to embedded benefits – although the imbalance pricing system still distorts competition). Large Generators will be impacted in a very minimal way as there will be increasing competition from small generators. The biggest effect on them will be because most of them are actually large suppliers as well.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	Large players will lose some of their ability to lever power out of small generators at below the market price, but this is acceptable because it furthers competition in both generation and supply. If being exposed to competition is a "dis benefit" then YES, but this is a good thing which must be promoted by the BSC.

Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** P100 does address one part of the issue. In our case it will increase the competitiveness of the small companies ("independent consolidators") which we can deal with. They would be able to give us the market price - currently they have to give money away to the dominant companies which are not contributing to the deal and which are supplying their customers with their own in-house generation – and yet still demanding a significant share of the embedded benefits! P100 resolves the embedded benefit issue but not the issue with the imbalance system inherently penalising small players (how do we contract for 0.5MW?)
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**YES** P100 is one step towards addressing this. Given the position of the people we could contract with, we must have smaller NETA players who are prepared to deal with us. P100 makes these players slightly less uncompetitive. These small players could easily be wiped out (or be prevented from coming into being by the possibility of being wiped out) by the larger players. With the current market (ONE independent consolidator) this is dangerously close to happening now. It is obvious that these "consolidators" suffer a competitive disadvantage – that is why there is still only one despite five or six companies having investigated the prospects. P100 addresses half the problem. A move to single price will address the other half.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES** The economic value of embedded benefits is well documented (see DTI paper "The costs and benefits of embedded generation" which was authored by ILEX). P100 will allow LEGs to realize a commercial value for embedded benefits which more closely matches their economic worth by removing the cross subsidy which exists when suppliers keep a share of embedded benefits in exchange for taking output. The argument which large supply companies put forward that the embedded benefits only exists where our embedded generation meets (their) contracted demand was demonstrated to be flawed when they by refused to buy any output from our plants. In this case they wanted to supply all their own customers in the GSPG from their transmission connected power

	stations and yet still take a share of the embedded benefits which are created when our plants run. It is therefore clear that the embedded benefits appear irrespective of who has contracted the local demand.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**YES** As noted above it increases competition to the large VIPs which will benefit both the market through increased number of viable, competitive parties, and customers. It is difficult to imagine how there could be any effective new entrants to the NETA markets until both P100 and the penal dual imbalance cashout system are addressed.
Would you like to make any further comments relevant to the Assessment Procedure for P100? **No.**	

P100_ASS_007 – Scottish Power

Name: Man Kwong Liu
Company: Calanais Ltd.
Parties represented: Scottish Power plc; ScottishPower Energy Trading Ltd.; Scottish Power Generation plc.; ScottishPower Energy Retail Ltd.; SP Transmission plc; SP Manweb plc

Question	**Response**
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	Views: The effect would be to allow LEGs to obtain, and retain, all the embedded benefits for themselves. LEGs ought to be entitled to a share of the benefits they provide but, ultimately, the embedded benefits ought to find their way back to customers in the shape of lower charges, and that is only possible if the supplier also gets a share of the benefits. This proposal can only increase suppliers' costs and therefore impact adversely on customers.
Q. Do you agree with the Proposer's view that there would be no dis-benefit for Suppliers as a result of P100?	NO. Rationale: See above. Suppliers would find it more difficult, or impossible, to obtain a share of embedded benefits and that would put up their costs.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	NO. Rationale: Previous modifications have already provided LEGs with the means to counteract any "handicapped bargaining position" and obtain a fair share of the embedded benefits associated with their

	plant.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	NO. Comments: See previous answer.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	NO Comments: No comment.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	NO. Rationale: The means to achieve a fair deal for LEGs already exist by virtue of earlier modifications. P100 provides no additional benefit. In fact, P100 would allow LEGs to obtain a disproportionate share of embedded benefits without the need to undertake normal commercial negotiations, to the detriment of the end customer. This doesn't seem to be enhancing either competition or the efficiency of the trading arrangements.
Would you like to make any further comments relevant to the Assessment Procedure for P100? NO.	

P100_ASS_008 – Alcan Primary Metal

Company: **Alcan Primary Metals – Europe Ltd**
Parties represented: 0 (Licence-Exempt Generator)

Question	**Response**
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** It would increase the market for embedded benefits by permitting all suppliers within a GSP Group (irrespective of demand) to contract for the benefit that the generator affords that GSP Group. LEGs would have more counter-parties with which to trade embedded benefits, improving the likelihood of fairer terms. Smaller suppliers would be able to contract with more and larger LEGs than at present (P7 would only permit this is the competing suppliers agreed to share the export). Larger suppliers would face more competition for

	embedded benefits. As such this Mod would better facilitate Objective C of the BSC, to facilitate competition.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**YES** / ~~NO~~ Rationale: Yes, larger suppliers may face more competition, but this is not a disadvantage as defined by the BSC Objectives. Smaller suppliers would be enabled to compete for embedded benefits. No supplier can face greater charges than if the LEG was not present in the GSP Group. Embedded benefits arise from the offsetting of demand by exempt export. Nothing in this principle relates to a supplier. Provided there is sufficient total demand in the GSP Group, the embedded benefit should be realisable. Individual suppliers should not have a right to that benefit unless they contract explicitly for it. P100 would enable embedded benefit to be traded as a commodity and would improve competition for embedded benefits.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** / ~~NO~~ Rationale: Yes, at present if a contractual agreement for the sharing of embedded benefits between a supplier and generator is not reached – all that benefit is transferred to suppliers in the GSP Group via the GSP Group Correction Factor. Larger suppliers gain the largest share of this smeared benefit. The current arrangements are not therefore – balanced. A LEG stands to lose all benefit, if it does not agree to share on a suppliers terms, whereas a supplier will still gain a share, if no agreement is reached. This situation is exaggerated in GSP Groups dominated by one large supplier, as there may be no viable alternative supplier with which a generator can share embedded benefits.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**YES** / ~~NO~~ Comments: As the realisation of embedded benefits requires that the LEGs export is offset by supplier's demand, there is an advantage for larger participants. Participation in NETA markets require substantial investment in infrastructure which, by the nature of fixed costs, place a greater burden on smaller participants. These fixed costs act as a barrier to participation in these markets.

	P100 would redress the balance between small and large suppliers by allowing any supplier to earn the full embedded benefit irrespective of size.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES** / ~~NO~~ Comments: The Elexon analysis of market shares grossly underestimates the extent of dominance by one or two commercial entities, by failing to aggregate Supplier Ids. Three companies in particular, Innogy, Powergen and LE Group hold multiple supplier Ids, each of which command substantial market shares. For example, supply in the Northern GSP Group, in which Alcan is located, is dominated by npower, npower Northern and npower Yorkshire – all subsidiaries of Innogy. The market share analysis was unhelpfully presented in an anonymous format, on the grounds of '*commercial sensitivity*'. As the metered volumes of all BM Units are available to all BSC Parties this is nonsensical. The P100 Assessment Report makes multiple reference (Sections 4.1, 4.3) to a Trading Unit being a set of BM Units that are close to each other. This is misleading and may unhelpfully prejudice responses to the consultation. It must be noted that the BSC states (K4.4.1) that: *Exempt Export BM Units shall belong to the Trading Unit, irrespective of the in Annex K-2*. Further as Supplier BM Units may consist of metered demand throughout a GSP Group, any deemed proximity requirement for a Trading Unit should be no less than the GSP Group.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**YES** / ~~NO~~ Rationale: Yes, P100 would better the Objectives of the BSC by facilitating competition for embedded benefits. It would place generators and suppliers on an equal footing in negotiations and all suppliers on an equal basis, irrespective of size. P100 would also remove the present default arrangements where, in the absence of registration embedded benefits default to suppliers (with large suppliers gaining the greatest share) and would redress the balance in negotiations for the sharing of embedded benefits by ensuring that both supplier and generator face losing all benefit in the absence of agreement.

Would you like to make any further comments relevant to the Assessment Procedure for P100?
In determining the appropriate recovery of the cost of BSC Modifications that encompass LEGs and other smaller organisations, due account should be taken of the proportionality of those costs for those organisations. It is not appropriate for these organisations to bear the entirety of costs to modify the BSC where such changes are to address inequities, inefficiencies or omissions in the original development of the BSC. Such costs can act as a barrier to entry and participation and as such run counter to Objective C of the BSC, to promote competition.

P100_ASS_009 – Powergen

Company: Powergen UK plc
Parties represented: Powergen UK plc, Powergen Retail Limited, Diamond Power Generation Limited, Cottam Development Centre Limited, TXU Europe Drakelow Limited, TXU Europe Ironbridge Limited, TXU Europe High Marnham Limited, Midlands Gas Limited, Western Gas Limited, TXU Europe (AHG) Limited, TXU Europe (AH Online) Limited, Citigen (London) Limited, Severn Trent Energy Limited (known as TXU Europe (AHST) Limited), TXU Europe (AHGD) Limited and Ownlabel Energy Limited

Question	**Response**
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** Under the present regime, LEGs and suppliers avoid certain charges for the use of the transmission system by trading with each other. P100 effectively seeks to remove the suppliers' benefits and pass these to the LEG or the party which registers it. The effect will be that charges are over recovered from suppliers as a whole, and some money will be passed to LEGs (so that the net recovery of money is correct). There is nothing that LEGs have provided in return for these payments other than non usage of the transmission network for which they avoid charges anyway. This represents an arbitrary redistribution of money from suppliers to LEGs, or a cross subsidy. A simple example of this cross subsidy is to consider a situation where there are equal amounts of LEG generation and demand in a GSP Group. In this circumstance under P100, suppliers would be charged based on 100% of their gross demand and the subsequent revenue would be passed to LEGs, even though there had not been any net cost recovery. It has been argued that we do not need to worry about this sort of effect as there is presently far more demand than generation. However, this is a dangerous principle to adopt as if the cost or charging signals to LEGs are distorted then this will encourage more LEGs to come onto the system which would make this situation more likely. This would then

	require a reconsideration of the charging policy which would change the cost assumptions under which these projects were developed, potentially making them less viable. Therefore, it is important that the charging methodology is robust to all scenarios so that the correct messages are given to the market. In practice we believe that this modification has the potential to act against the interests of LEGs. LEG energy as a product on its own is less attractive to suppliers as they are exposed to the imbalance risk for non delivery of that generation, which is not the case if they buy generation through the market. Therefore, there have to be other reasons to buy it. The decision to contract with LEGs takes into account a number of factors including cash-out risk, embedded benefits, market energy price, LEC/ROC benefits and administrative burden. The concern is that by effectively removing embedded benefits from suppliers, then they might consider it not worthwhile contracting with LEGs at all, especially those who cannot provide environmental benefits. However, the detrimental effects of P100 could even be significant enough for some suppliers that they opt to cash-out under the renewable obligation in order to avoid the hassle of dealing with LEGs.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: In the short term there is likely to be a disadvantage to suppliers. Some contracts with LEGs factor the anticipated embedded benefits into the energy price offered to LEGs and these contracts will therefore become uneconomic. Other contracts will need renogotiation, which does not come without cost. However, we believe that in the longer term as contracts expire and suppliers start to work under the new regime, this has the potential to work against the interests of LEGs, by reducing their attractiveness to suppliers and impeding their route to market.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**NO** Rationale: The bargaining position argument has not yet been proven. The figures only show the position for BSC Party IDs and a conclusion should not be reached without similar work being done for groups of related Party Ids which form a larger supply business. This may show a less concentrated or more concentrated picture as the smaller Party IDs may add up to a supplier with a more significant demand size to rival the largest supplier, or the largest

	dominant parties may be shown to be more dominant. Additionally, the figures also show demand sizes which presumably will be net of SVA LEG generation. Therefore, a supplier which has been actively contracting with SVA generation will look as if it has a smaller amount of demand. It does not need to be demonstrated that there are a large number of alternative suppliers in the group. Rather, one or two alternative suppliers with enough demand will be sufficient to provide the competitive pressure required. If there are areas with insufficient numbers of suppliers, P100 is still not necessary as P7 was implemented to allow smaller suppliers to get together and achieve embedded benefits if it is in their commercial interest to do so.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**NO** Comments: The issue here is whether there is undue disadvantage. In many markets larger companies attain advantage due to cost or risk reductions that size affords. P100 does not level the playing field, but creates a distortion which disadvantages suppliers and ultimately could disadvantage LEG generation.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**NO** Comments:
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**NO** Rationale: P100 produces a distortion in the transmission charging arrangements and therefore in the market. It is not conducive to better competition in supply or generation. We believe that this has the potential to ultimately harm the LEG sector most of all.

Would you like to make any further comments relevant to the Assessment Procedure for P100?

Yes. We would like to make some comments on the paper which puts forward the case for P100.

The paper asserts that the debate is about whether embedded benefits are earned by suppliers or by embedded generators. We believe that the debate has been whether embedded benefits are earned by embedded generators and suppliers, or embedded generators on their own. We argue that it is the former whereas the basis of the argument for P100 appears to be that embedded benefits are realised unilaterally somehow by LEGs.

For instance, the argument is made that the supplier has no role in creating embedded benefits because "customers create demand, not suppliers". The supplier is the contractual representative of customers in the wholesale market. A customer could if it wished self supply and sign up to the BSC/CUSC etc. In these circumstances the party "creating" the demand would be the same registering the BMU but would still be detrimentally affected by P100. P100 is not about allowing customers access to embedded benefits, it is about claiming a disproportionate share for the registrant of LEGs.

Another argument is that embedded benefits are a physical phenomenon and therefore contracts should not determine them. This in itself is an acceptable argument if you then accept that all suppliers bring demand to the market and should therefore realise embedded benefits in proportion to the amount of demand they bring. However, the position at present is that there is a contractual route to allow suppliers to obtain more of the embedded benefit than this by contracting exclusively with an embedded generator. This is what allows the embedded generator to claim that it helped a supplier realise the embedded benefit. If you lose the contractual link and rely on the physical argument, then this relationship ceases to be exclusive. In this instance, suppliers should have their charges reduced in proportion to the demand brought to the market. It is not an argument to pay them to LEGs.

The licensing regime is not relevant to the payment of embedded benefits. The fact that suppliers have certain responsibilities in respect of customers is a matter of statutory customer protection. As mentioned above, nothing except normal economics or apathy prevents customers from supplying themselves. Below a certain threshold they do not require a licence.

It is stated that the supplier's central role is to contract for generation and bill customers. To this we would add the role of procuring services to deliver that energy to the customer including paying transmission charges and distribution charges, and to do so as economically as possible. P100 is certainly not conducive to this last element.

It is true that nothing in P100 prevents suppliers from procuring transmission services. This isn't really the point. What P100 does is make suppliers pay too much for transmission services.

P100_ASS_010 – British Gas Trading

Company: British Gas Trading Limited
Parties represented: Accord Energy Ltd, Centrica KL Ltd & Centrica PB Ltd

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	We believe that in practise a Suppliers demand could be netted off within a trading unit without the Supplier receiving any benefit. The benefit would accrue to the registrant of the LEG BMU. This is an

	obvious cross subsidy as for any embedded benefit to accrue in the first place, generation and demand must be matched within a GSP group.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: As stated above, a supplier's demand could be netted off without them receiving any embedded benefit.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**NO** Rationale: In order to realise embedded benefits there has to be a match between demand and generation. If LEGs want to contract with a Supplier to realise their share of the embedded benefits then this is purely a matter for commercial negotiation, with both parties able to gain from the embedded benefits. There is currently a glut of generation resulting in all generators having a weak bargaining position, this issue is not unique to LEGs. With the consolidation of the market, there are likely to be a small number of large Suppliers in a specific GSP group, however, these are likely to be the same Suppliers across the majority of GSP groups.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**NO** Comments: We do not believe that smaller suppliers, LEGs or consolidators face an inappropriate competitive disadvantage against other suppliers and generators. We suggest that a larger supplier will want to negotiate with the largest embedded generators from a purely commercial aspect. They will want to net off the largest percentage of their load with the smallest amount of work (negotiation), this is not specific to this industry and is usual commercial behaviour. It is this "normal" behaviour that results in lower value contracts for smaller LEGs as they have a smaller net benefit to the Supplier (additional admin/negotiation costs).
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES** Comments: It would be useful to see the actual number of Commercial entities across GSP groups. We believe that there will be little difference in the Commercial entities between or within GSP groups.
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**NO** We believe that P100 introduces a cross subsidy within a GSP group, this is due to the mandatory nature of P100. As such we do not believe that this

	modification further promotes competition (objective c), nor is it efficient is the implementation and administration of the balancing and settlement arrangements (objective d).
Would you like to make any further comments relevant to the Assessment Procedure for P100? No	

P100_ASS_011 – Slough Energy Supplies Ltd

Company:	*Name SLOUGH ENERGY SUPPLIES LIMITED*
Parties represented	*Slough Energy Supplies Limited (the respondent); Fibrepower Slough Limited (generator); Slough Energy Contracts Limited (exemptable generator); Slough Utility Services Limited (exemptable generator).*

Question	Response
Q1. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** The reaction of trading parties will change to optimise their positions in the new situation. Different parties will be affected differently. The trading parties and LEGs will see the following potential effects: Non-physical trading parties: No impact Non-exempt generators: Negligible impact. A few may seek to meter share or consolidate with LEGs, which will be allowed if the P/C Flag of the LEG BMU is set to "P" (which P100 allows without the loss of embedded benefits). This will facilitate competition in generation but is probably only a minor effect in practice. Smaller suppliers: These will be advantaged by P100 in that they will be able to contract with more embedded generation on a competitive basis because their lack of size will not cause loss of embedded benefit. This clearly facilitates competition in supply. Larger suppliers: Under the current arrangements, such suppliers have a competitive advantage due to their size because, as the analysis provided in the Draft Assessment Report suggests, only relatively few of them will have enough demand in certain GSP groups (and in the "average" GSP group) to fully realise embedded benefits. Therefore, P100 will increase competition between such suppliers in the procurement of embedded benefits and they

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	will lose their local monopsony power. They will be relatively disadvantaged due to the increase in competition in supply facilitated by P100; but only to the extent of reducing the excessive market power which they enjoy under the current system. Exemptable generators (both Party and Non-party): These will be advantaged by the ability to trade with more parties without loss of embedded benefits. Therefore, they will be able to negotiate more competitive generation contracts. They will benefit from P100 because there will consequently be increased competition for their output – all LEGs will be able to trade competitively with the full range of suppliers. In addition, LEGs will be able to trade with all potential consolidators (either on the Production or, more normally, the Consumption side) without loss of embedded benefit. Consolidators: These parties will be able to register BMUs with exemptable generation included without having to register demand meters sufficient to cover the level of generation. This significant impediment to consolidation will therefore be removed.
Q2. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**YES** **Rationale:** The only reason for forming a Trading Unit on the demand-side is to be able to accrue embedded benefits. Forming an automatic Trading Unit should not affect any existing bilateral contract made between a supplier and LEGs and will not restrict the forming of such contracts in the future. In fact, as more suppliers will be able to form such contracts, this facilitates contracting between suppliers and such generators. As explained in the response to question 1, larger suppliers will lose some market power in forming contracts for embedded generation due to the increased competition which P100 would facilitate for LEGs in the realisation of the value of the embedded benefits. The Proposer emphasises that any

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	such reduction in supplier market power is merely correcting the excessive market power which they currently enjoy. The case put in Annex 3 against P100 is misleading on several important points, as is fully explained in the answer to question 7. In particular, the Proposer wishes to address the issue of supposed "cross-subsidy" between suppliers if a particular supplier does not contract for sufficient demand in the relevant GSP group. At the root of this misconception is the belief that suppliers "own" the demand on which embedded benefits are currently calculated and so are the only parties entitled to be paid embedded benefit. The reality is that any embedded generation procured avoids the use of the transmission system in supplying local customers and so relevant transmission charges should not be applied, regardless of who has contracted for that generation. This is illustrated by the statement in Annex 3: *"… the reduction in supplier charges … can be realised by suppliers as a whole without any contractual relationship between the LEG and the supplier. If the generator is not registered in BSC systems the generation will reduce the amount of GSP Group Take in an area, which will result in lower metered volumes for suppliers. However, this effect is smeared across all suppliers in an area through the GSP Group Correction Factor in proportion to their share of the GSP Group's Non Half Hourly metered customers' demand."* In other words, the contract determines who gets embedded benefit but not the level of embedded benefit. P100 merely reduces the contractual advantage given by the suppliers' monopsony position.

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Q3. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** **Rationale:** LEGs currently stand in a handicapped bargaining position, both in relation to the sale of their output itself and the trading of embedded benefits, for a number of reasons, as explained below. Although the great majority of LEGs, not being BSC parties, do not have imbalance charges imposed on them directly, suppliers trading with LEGs are subject to imbalance charges in respect of the LEG's output or consumption. In practice, however, LEGs have imbalance risk imposed via the contract with their supplier as explained below; and as the majority of LEGs are not BSC parties, they are unable to manage or offset this risk by participating in the NETA markets. This tends to make LEGs unattractive counterparties to the suppliers negotiating to buy their output. As a result, suppliers are either reluctant to contract with LEGs at all or will do so only on terms which effectively pass the entire imbalance risk back to the LEGs, in the form of a substantial price reduction. A key element to this weak bargaining position is that LEGs lack any real alternative than to sell to the few suppliers within their GSP group who have the necessary consumer demand there and are willing to contract with them. The effect is that the market for dealing in the value of LEGs' embedded benefits is very narrow; and this restriction means they are in practice prevented from realising the true value of their generation output. Elexon's own findings, reported in the draft Assessment Report on P100, confirm this view: "the analysis is deemed sufficient to corroborate the Proposer's view that a number of large Suppliers dominate the Supply market within their respective GSP group". There is a considerable body of evidence to support the Proposer's contention that LEGs are in a handicapped bargaining position with regard to large suppliers. The evidence produced by respondents to the DTI's consultation

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	of 1st November 2001 included 14 responses from the smaller generator market, including representations from trade associations, which describe the weak position in which LEGs find themselves under the current market structure. It is apparent from those responses that the presence of imbalance charges which LEGs cannot manage is a principal cause of this weak bargaining position. The evidence presented in the responses to the DTI's consultation is corroborated by the Ilex Report "Contractual and Administrative Barriers facing Licence-Exempt Generators under NETA". The Report notes the argument that "suppliers recognise LEGs as being distressed sellers, given that there are limited alternative contracting options open to them". In addition to the number of suppliers under each GSP group, Ilex identify another factor which exacerbates the situation, namely that "the cost and complexity for suppliers in striking deals with LEGs can itself be a disincentive for suppliers". The report concludes that "… it is likely that in many cases, contracting complexity is a dominant factor in terms of restricting the number of supplier offers that LEGs receive to less than might otherwise be the case. This is consistent with anecdotal evidence of contracting negotiations that Ilex has handled on behalf of small generators". It is important to emphasize a point made repeatedly at meetings of the P100 Modification Group, namely that the Proposer is not seeking to allege any abuse of a dominant position or any other anti-competitive behaviour on the part of suppliers, or any other BSC party. As has been pointed out, that would be a matter for investigation by Ofgem, rather than a modification to the BSC. Instead, what has been experienced by LEGs under NETA is suppliers acting in a way which simply reflects the structure of the market in which they and LEGs are operating under NETA. The fault lies with the market structure, rather than any of the participants in that structure and it is this fault in the market which P100 seeks to address (see below). <u>If so, do you believe that P100 would resolve this issue?</u>

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	The implementation of P100 would directly address LEGs' handicapped bargaining position as described above and consequently help LEGs to realise the value of their embedded benefits. P100 would give LEGs with embedded output the opportunity to reach agreement with any meter registrant to acquire its embedded benefits, enabling LEGs to sell these benefits to a much wider market, in contrast to the current situation where LEGs can only trade embedded benefits with licensed suppliers with sufficient consumer demand under the relevant GSP group. By widening the number of potential counterparties in this way, it will follow that P100 would create the economic conditions under which competition for the sale of embedded benefits is able to increase, thereby enabling LEGs to realise the true value of their output in the absence of the current market constraint which prevents that value being realised. The Proposer therefore believes that P100 would better facilitate applicable BSC objective (c), by promoting effective competition in the generation and supply of electricity – please see the response to question 6. Rationale:
Q4. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	**YES** **Comments:** This question deals with a number of issues, which the Proposer would address as follows: (a) <u>Competitive disadvantage of Licence Exemptable Generators against suppliers</u> This issue is dealt with in our response to question 3 above. (b) <u>Competitive disadvantage of smaller suppliers or consolidators against other suppliers and generators</u> The P100 proposal was drafted to address specifically the particular

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	difficulties being experienced by LEGs with embedded output under NETA. Whilst there may well be issues relating to the competitive position of small suppliers and consolidators, this is not an issue which is intended to be addressed in P100 and the Proposer does not therefore feel it appropriate to comment on this. (c) <u>Competitive disadvantage of Licence Exemptable Generators against other generators</u> As against other generators, LEGs face specific competitive disadvantages which fall into the following categories: (i) inability to realise the value of their embedded benefits outside the relevant GSP group. This disadvantage is addressed in the answer to question 3 above. As explained, LEGs are at a competitive disadvantage as regards the realisation of the value of their embedded benefits and also in the sale of their generation output itself; (ii) inability to manage their own imbalance risk. The underlying causes are the administrative barriers which make it impractical for many LEGs to participate in the NETA markets, and the lack of liquidity in the markets in respect of the power trades which such LEGs could otherwise make in the course of balancing their position. LEGs therefore have greater difficulty than other generators in managing their imbalance risk. This places LEGs at a competitive disadvantage in selling their generation output, as explained in question 3 above. The administrative barriers and market liquidity difficulties concerned may be summarised as follows: *Administrative Barriers:* There are administrative barriers such as set up costs and

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	resourcing requirements which restrict LEGs' access to the NETA markets. For example, the costs of establishing a fully fledged trading desk in the UK Power Exchange are estimated at £1 million to £5 million, with ongoing costs of up to £1 million per annum, in addition to brokerage and settlement fees and credit costs. Together, illiquidity and administrative barriers prevent all but the largest LEGs from trading other than with suppliers in their GSP group. Clearly, this constitutes a competitive disadvantage faced by LEGs as against other generators who are not affected by these constraints. These barriers are described in more detail in the paper by Ilex Energy Consulting – "Contractual and Administrative Barriers facing Licence-Exempt Generation under NETA." *Market Liquidity:* Research carried out on behalf of the Proposer as well as the experience of numerous respondents to the DTI's November 2001 consultation and the Ilex Report "An Objective Assessment of NETA on Small Generators", corroborates the lack of liquidity for LEGs in the relevant markets. The barrier is also referred to in the Ilex report referred to above regarding contractual and administrative barriers. This lack of liquidity for small parcels of power affects LEGs disproportionately to other, larger generators and therefore constitutes a further competitive disadvantage faced by LEGs. The lack of liquidity for LEGs' output contributes to the lack of any real alternative for most LEGs to selling their output to a supplier with consumer demand under the relevant GSP group. As explained above, that is an important cause of LEGs' weak bargaining position with suppliers; and

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	(iii) the cost to LEGs of imbalance under the prevailing circumstances of non cost reflective imbalance prices, is in practice greater to LEGs. The lack of cost reflectivity in imbalance charges is explained in a report by Ilex Energy Consulting – "Cost Reflectivity of Imbalance Charges". The additional financial burden on LEGs flowing from non cost reflective imbalance prices is attributable to the following: – LEGs are unable to manage their imbalance risk or to do so as effectively as other generators; and they face disproportionate costs in attempting accurately to predict their output to avoid imbalances (see Ilex Report – "Cost Reflectivity of Imbalance Charges"); and – the economic impact of non - cost reflective pricing is also greater for LEGs (see the paper by Campbell Carr presented to the P95 Modification Group, entitled – "Impact of non-cost reflective pricing on LEGs". If so, do you believe P100 would resolve this issue? As explained in the response to question 3(ii), the implementation of P100 would directly address LEGs' weak bargaining position, by widening the market for the sale of the value of LEGs' embedded benefits and with it their generating output. The implementation of P100 would also indirectly address each of the three additional market barriers identified above (and, in turn, further assist in addressing LEGs' weak bargaining position) as follows: (i) Cost Reflectivity: although P100 would not make imbalance charges any more cost reflective, the wider market for LEGs' embedded benefits would improve LEGs' bargaining position with suppliers, by widening the market into which they can sell. P100 would therefore assist in alleviating the consequences of non cost reflective balancing prices.

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	(ii) Illiquidity: by enabling LEGs to sell their output (including the associated embedded benefits) to parties other than those with the required consumer demand under the LEG's GSP group, P100 should improve the terms obtained by LEGs in their negotiations with suppliers and thereby reduce the impact on LEGs of the lack of liquidity for small parcels of power in the NETA market. Therefore, there would be less need to have access to the NETA markets; and (iii) Administrative Barriers: as with the illiquidity barrier discussed above, P100 would not remove the administrative barriers themselves, but would, by enabling LEGs to trade with suppliers more effectively, reduce the effects of these administrative barriers on LEGs.
Q5. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**YES** **Comments:** The analysis demonstrates the following: 1. The Proposer's view that there is a lack of competition in the procurement of embedded generation would seem to be amply born out even before the concentration of suppliers through the formation of affiliations between BSC parties is taken into account. P100 will reduce the monopsony advantage that this has conferred on large suppliers. 2. The different embedded benefits, while mostly out of the direct scope of the BSC, would be treated more efficiently from the LEGs' point of view, allowing them to realise a value which better reflects the intrinsic value of their embedded output.
Q6. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe	**YES**

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that P100 would better facilitate BSC Objectives (c) and (d)?	**Rationale:** BSC Objective (c) P100 promotes competition in the generation and supply of electricity, in that: (i) it removes the unjustified and discriminatory barrier under the current system, whereby LEGs can only trade in embedded benefits (and thereby realise the true value of their output) by trading with licensed suppliers with sufficient consumer demand under the generator's GSP group. This is an unjustifiable barrier, given the nature of embedded benefits, as explained in the response to question 2. This leads to a weak bargaining position for LEGs given that there is an artificially limited number of potential counterparties with whom they may trade; (ii) the effect of P100 is to address LEGs' weakened bargaining position by widening the market for their embedded benefits, by enabling LEGs to reach agreement with any meter registrant to acquire these benefits and the associated output. This enables LEGs to sell their embedded benefits into a national market, rather than the current limited market existing under the relevant GSP group. Widening the market for any product puts in place the economic conditions whereby increased competition can occur; and this should therefore lead to LEGs being able to obtain better terms from suppliers, in contrast to the current position where contracts with suppliers reflect the unjustified constraints within which LEGs with embedded output are operating; (iii) the current barrier to LEGs selling their embedded benefits into a wider market is one of a range of barriers faced by LEGs under NETA, as explained in the response to question 4. The effect of these barriers and the resulting disproportionate and damaging effects

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		which NETA has had upon LEGs, are well documented. These effects have included withdrawals from the LEG sector and extreme financial consequences for that sector which threaten its continued participation in the generation market. It is hardly in the interests of competition that the LEG sector, which constitutes up to an estimated 8% of the electricity generating market in England and Wales should be placed at risk in this way. By addressing this barrier and its anti-competitive effects, P100 would therefore be promoting competition in generation;
	(iv)	although P100 is a Modification which would distinguish LEGs from other generators, it cannot be said to discriminate against any BSC parties, either unduly or otherwise. It does not discriminate against other generators because it simply removes an existing unjustified barrier relating to LEGs and does not affect the situation for other generators. Likewise, its effect on suppliers cannot be said to be discriminatory. As is explained in the response to question 2, its only effect on suppliers is to remove the unjustified market power which they currently enjoy as a result of an unjustifiable restriction on the parties with whom LEGs may trade their embedded benefits.
	(v)	P100 has the effect of introducing a change to the BSC which assists in causing it to be consistent with: • the duty of Member States under Articles 3(g), 10 and 81 of the EC Treaty not to take any measures which could jeopardise the effectiveness of the rules of competition; • the requirements of Directive 96/92 (the Electricity Directive) that Member States "ensure that electricity undertakings are operated in accordance with the principles of this Directive, with a view to achieving a competitive market in electricity and shall not discriminate between these

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	undertakings as regards either rights or obligations"; and • the duties of the Secretary of State and Ofgem pursuant to Section 3A of the Electricity Act 1989. This modification is also consistent with the compliance of the EC with its duties as to competition under the terms of its licence, under the laws of England and Wales and of the European Union. BSC Objective (d) By reducing the number of Trading Units on the demand side to only those necessary to ensure the sole function of such Trading Units is fulfilled, the balancing and settlement arrangements are implemented and administered more efficiently.
Q7. Would you like to make any further comments relevant to the Assessment Procedure for P100?	**Rationale:** These comments relate to the case put in Annex 3 to the Draft Assessment Report, which is seriously misleading. In this section, the headings in that Annex are largely replicated for ease of reference. 1. Gross Charging and Net Charging The distinction made is artificial. NGC is currently consulting on a Gross Charging methodology for TNUoS, whose effect will be "Net". The distinction is false because it concentrates on the application of charges rather than on what is being charged for. What is being charged for is use of the transmission system. If generation is procured locally then the transmission system is avoided and should not be charged for. On a gross charging basis, the embedded generation is treated as negative demand in order to measure the extent of avoided use of the system and on a net charging basis, it is subtracted from demand before applying charges to the residual. A distinction should not be made as to the nature of embedded benefits on the basis of the methodology of applying

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	charges. What seems to be implied by "Gross Charging" is that the act of generating necessarily calls for transmission services such as services to provide stability and security. This is putting the case that no embedded benefit exists and so should not be allowed at all. However this is not argued elsewhere in the Annex on the basis that, apparently, suppliers avoid use of the system by procuring embedded generation and so should be allowed to net it off their registered offtake. In fact, the industry has been discussing the issue for 12 years or more and has come to a general consensus that there is a benefit from embedded generation and that NGC should not be charging for services which they do not supply because of the existence of that embedded generation. This benefit includes transmission losses and network capacity, which are not mentioned in the Annex. 2. What are embedded benefits? The statement that "*Embedded benefits only exist under a net charging regime*" is plainly incorrect as the same Annex goes on to demonstrate. If the absence of any contract would cause embedded benefit to accrue to all NHH demand in a GSP group (as quoted from the Annex in answer to an earlier question above), then the netting process is surely simply a means of calculating the embedded benefit charges and does not determine the nature of the embedded benefit. Ofgem defined embedded benefits in the P7 Decision as follows: "*The rationale behind permitting access to embedded benefits is based on the fact that embedded generation is deemed to net off local demand and does not utilise the transmission system.*" This is valid regardless of the existence of a contract with a supplier or whether it is calculated net or gross. 3. Who creates embedded benefits?

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	Whilst the Annex correctly points out that embedded generation only avoids use of the transmission system because of the existence of demand, this is not the same as saying that it only exists because that demand is contracted to the same supplier as contracts for the embedded generation. That is what is implied (although not actually stated), in this section of the Annex.

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P100_ASS_012 – LE Group

Company: LE Group
Parties represented: LE Group Plc, London Electricity Plc, Jade Power Generation Ltd, Sutton Bridge Power Ltd, West Burton Power, London Power Network Plc, and Eastern Power Network Distribution Ltd, ECS

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** P100 will have an impact on our settlement system, but the cost is not expected to be material.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**NO** Rationale: It seems likely that in a number of situations the proposal will alter the balance of advantage between two contracting parties. Therefore we do not agree with the Proposer's view.
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**NO** Rationale: LEGs can contract with any of the suppliers with enough demand to be able to absorb their output: for all but the largest LEGs, there should be enough potential offtakers for the market to be competitive.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	Comments: It is statistically true that larger suppliers, other things being equal, should have a smaller demand forecasting error than smaller suppliers. Similarly, larger consolidators should have an advantage over smaller consolidators. The output of a generator will be more or less controllable depending on a number of circumstances – size is probably not overwhelmingly significant; but generation should usually be more controllable than demand. The question cannot therefore be answered in a simple yes/no way. It is not necessarily appropriate to suggest a 'fix' to the market to correct impacts that are an inherent feature of its design.
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**NO**
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and	**NO** Rationale: We agree with the analysis in Annex 3 of the draft Assessment Report which shows that P100 can lead to cross subsidy between different suppliers, or between

(d)?	suppliers and embedded generators.
Would you like to make any further comments relevant to the Assessment Procedure for P100?	

P100_ASS_013 – Immingham CHP

P100 Assessment Consultation

Thank you for the opportunity to comment on the P100 Assessment Consultation. A response from Immingham CHP is attached.

We strongly support P100, which we believe better facilitates Applicable Objective (c). We also consider that the current rules are discriminatory, in most cases effectively tying LEGs to a local dominant supplier. Embedded generators would be much better able to achieve fair value for embedded benefits if they could access a wider market.

Please let me know if you would like clarification on our comments.

Regards

Barry King

Company: **Andrew Murray, ConocoPhillips**
Parties represented: **Immingham CHP**

Question	Response
Q. If P100 were implemented, how would Parties and Licence Exemptable Generators be affected in practice?	**Views:** P100 would enable LEGs with embedded output to sell these benefits to a much wider market than currently. This would create the economic conditions under which competition for the sale of embedded benefits should increase, enabling LEGs to realise greater value without the existing market constraints.
Q. Do you agree with the Proposer's view that there would be **no** dis-benefit for Suppliers as a result of P100?	**YES**
Q. Do you agree with the Proposer's view that Licence Exemptable Generators currently stand in a handicapped bargaining position with respect to large Suppliers? If so, do you believe that P100 would resolve this issue?	**YES** Analysis of the market share of Suppliers within each GSP Group carried out by Elexon shows that the number of Suppliers with sufficient demand to net off a LEG's generation is extremely limited. In most GSP Groups, there are one or two dominant Suppliers. The number of counter-parties with which to trade

	embedded benefits is therefore limited. This places the one or two dominant suppliers per GSP group in a strong bargaining position which they are utilising. As noted above, P100 would resolve this issue by allowing LEGs to sell into an increased market, increasing competition and thus improving a LEG's bargaining position.
Q. Do you agree with the Proposer's view that (given the current baseline) small suppliers, consolidators and Licence Exemptable Generators face a competitive disadvantage against other suppliers and generators? If so, do you believe that P100 would resolve this issue?	The answer to the first question is "yes". P100 would resolve the problem at least in part. That said, a handful of large suppliers will retain a position of dominance in the wider trading market. Comments: see reasons detailed above
Q. Would you like to comment on the analysis undertaken by the P100 SSMG concerning embedded benefits?	**NO** Comments:
Q. Bearing in mind your previous replies and the arguments outlined in the draft Assessment Report (Section 4.5 and Annexes 2 & 3), do you believe that P100 would better facilitate BSC Objectives (c) and (d)?	**YES** P100 would enable LEGs with embedded output to sell these benefits to a much wider market than currently. This would create the economic conditions under which competition for the sale of embedded benefits should increase, enabling LEGs to realise greater value. This would better facilitate Applicable BSC Objective (c), by promoting effective competition in the generation and supply of electricity.

Would you like to make any further comments relevant to the Assessment Procedure for P100?

There is a potential interaction between this modification and NGC charging modifications currently in play (especially UoSCM-M-07). It is recognised that these modifications are not within the current baseline of this modification. However, the identification of any further benefits resulting from the NGC charging modifications could result in lower costs for implementing this modification.

P100_ASS_014 – British Energy

To: Modifications Secretary
Elexon

From: Rachel Ace
Date: 26 November 2002

BE does not support P100 which we believe introduces a mechanism which creates cross-subsidies between different suppliers or different suppliers and embedded generators. Cross subsidies of this kind will damage competition and this will not better facilitate the BSC objectives compared to the current baseline.

LEGs can already avoid NGC charges by choosing not to participate in the Balancing Mechanism. For those LEGs choosing to participate there is already an established commercial mechanism for trading commercial benefits.

LEGs cannot realise embedded benefits without suppliers hence both play a part, hence the benefits should be shared. The compulsory nature of P100 prevents suppliers recovering part of embedded benefits creating undesirable cross subsidies.

Finally much of what P100 is looking to introduce is already the subject of industry consultation under NGC's charging methodologies. Against this background P100 is seen as unnecessary.

ANNEX 5 – ANALYSIS OF SUPPLY BY GSP GROUP

In order to investigate the alleged bargaining power of large Suppliers, ELEXON was asked to undertake an analysis of the market share of Suppliers within each GSP Group. The results of this analysis are summarised below in an anonymised fashion.

Figures 1A, 2A and 3A present an analysis of market share in terms of Supplier ID. Within each chart (Total, NHH or HH), the market share of the dominant Supplier ID is indicated starting from the 12:00 o'clock position. All Supplier ID's are ranked with respect to their market share in a clockwise direction. (Note that the dominant Supplier ID in the NHH market need not necessarily be the dominant Supplier ID in the HH market.)

Figures 1B, 2B and 3B present the results of the same analysis while taking into account known commercial relationships between Supplier ID's. In effect, Supplier ID's that are controlled by the same commercial entity are grouped together as one item.

The analysis was deemed sufficient to corroborate the Proposer's view that a number of large Suppliers dominate the Supply market within their respective GSP Groups. However, members of the P100 SSMG differed in their economic interpretation of the results. Supporters of P100 argued that the structure of the Supply market indicates the presence of market imperfections such as monospony or oligopsony, whilst opponents of P100 suggested that the current situation is consistent with a developing market and provides sufficient opportunities for the trading of embedded benefits.

Figure 1A describes the GSP Group with the most dominant Supplier ID. In this GSP Group, 50% of electricity Supply is provided by a single Supplier ID and no other Supplier ID has a 10% share of the total market. In the NHH side, there is a dominant Supplier ID with 61% of the market and a second Supplier ID with 16%. The HH market appears to be somewhat more competitive, in that three Supplier ID's have a market share over 10%. Figure 1B shows the same GSP Group with Supplier ID's grouped together according to the corporate entity that controls them.

Figure 1A

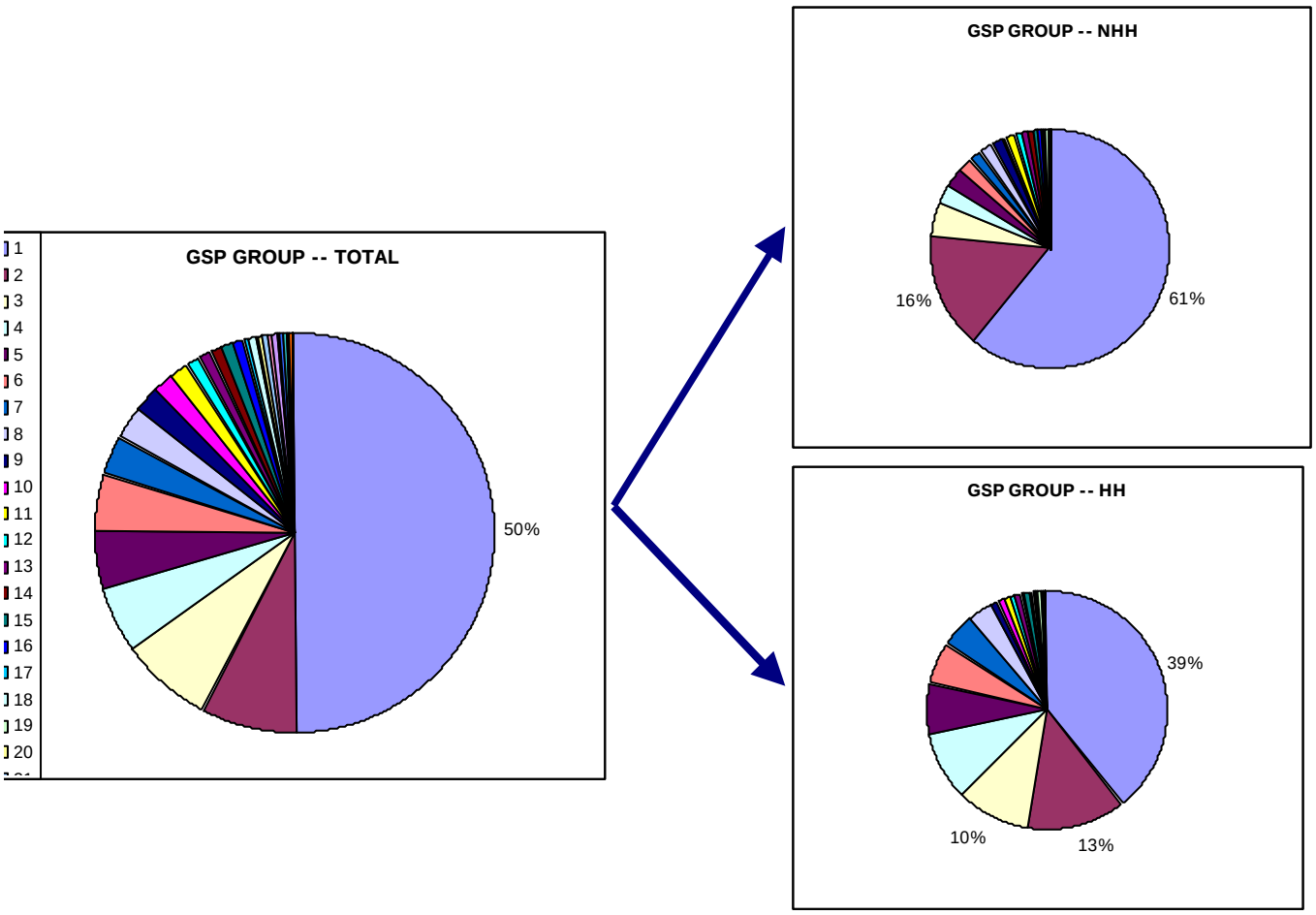
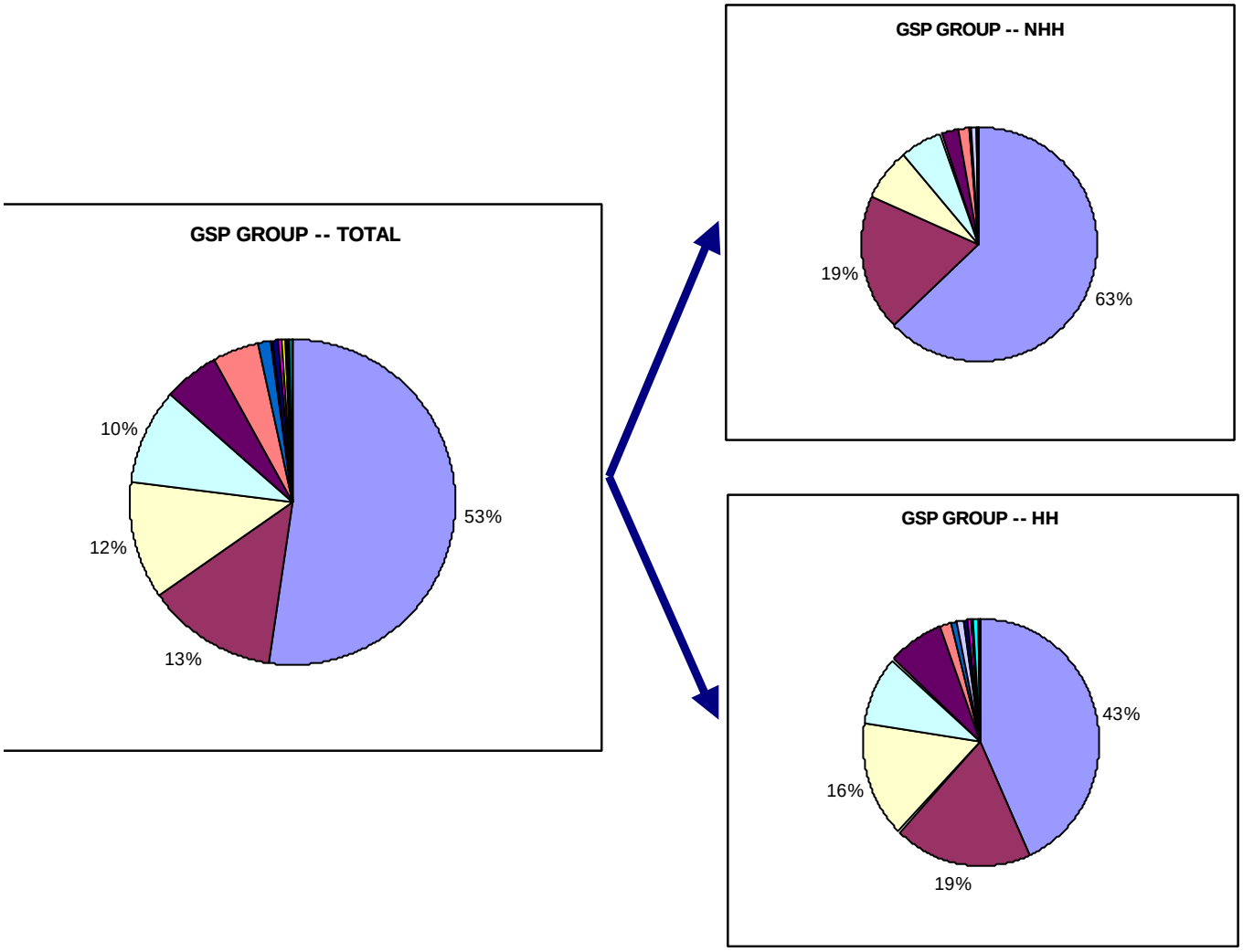


Figure 1B presents the same GSP Group, with commercially related Supplier ID's treated as a single item:

Figure 1B



In contrast, Figure 2A shows the GSP Group which approximates most closely to the competitive ideal. However, it should be noted that even here the NHH market exhibits a structure similar to the GSP Group shown in Figures 1A and 1B. It is again the HH market that appears to be more competitive.

Figure 2A

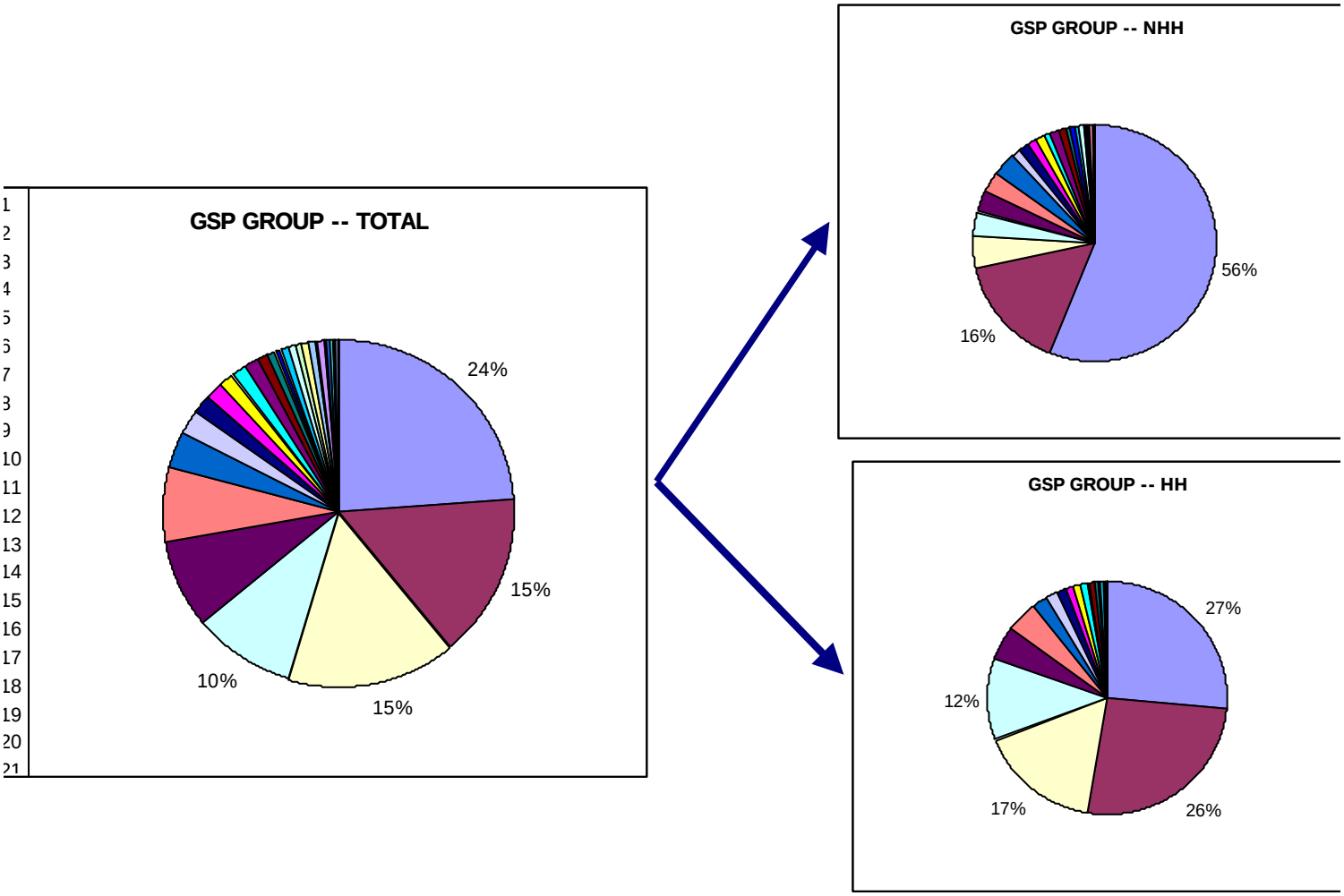
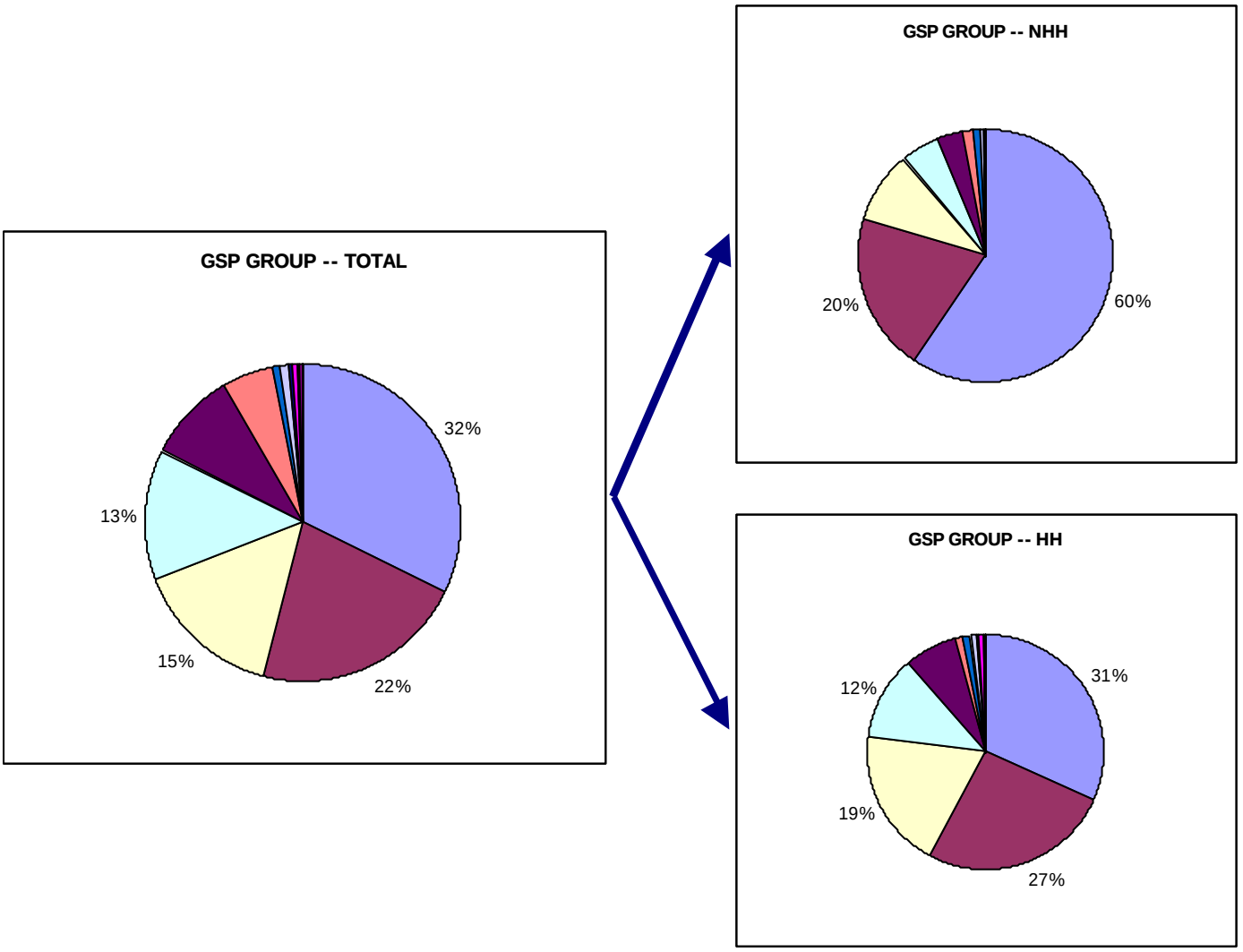


Figure 2B



Figures 3A and 3B present an aggregate view of the electricity Supply market, which exhibits a structure between the extremes investigated in Figures 1A-B and 2A-B. The aggregation is volume-weighted. In other words, the left-hand side of Figure 3A shows that 36% of all electricity Supply is associated with a Supplier ID which is dominant in the relevant GSP Group. Similarly, 11% of electricity is supplied by a Supplier ID which occupies second place in the relevant GSP Group and so on. Once again, it is clear that the NHH market is dominated by one Supplier ID per GSP Group. These dominant Supplier ID's have an average market share of 56%. In any given GSP Group, there seems to be one other Supplier ID with around 17% of the NHH market. The HH market appears to approximate the competititive ideal better than the NHH market, as expected.

Figure 3A

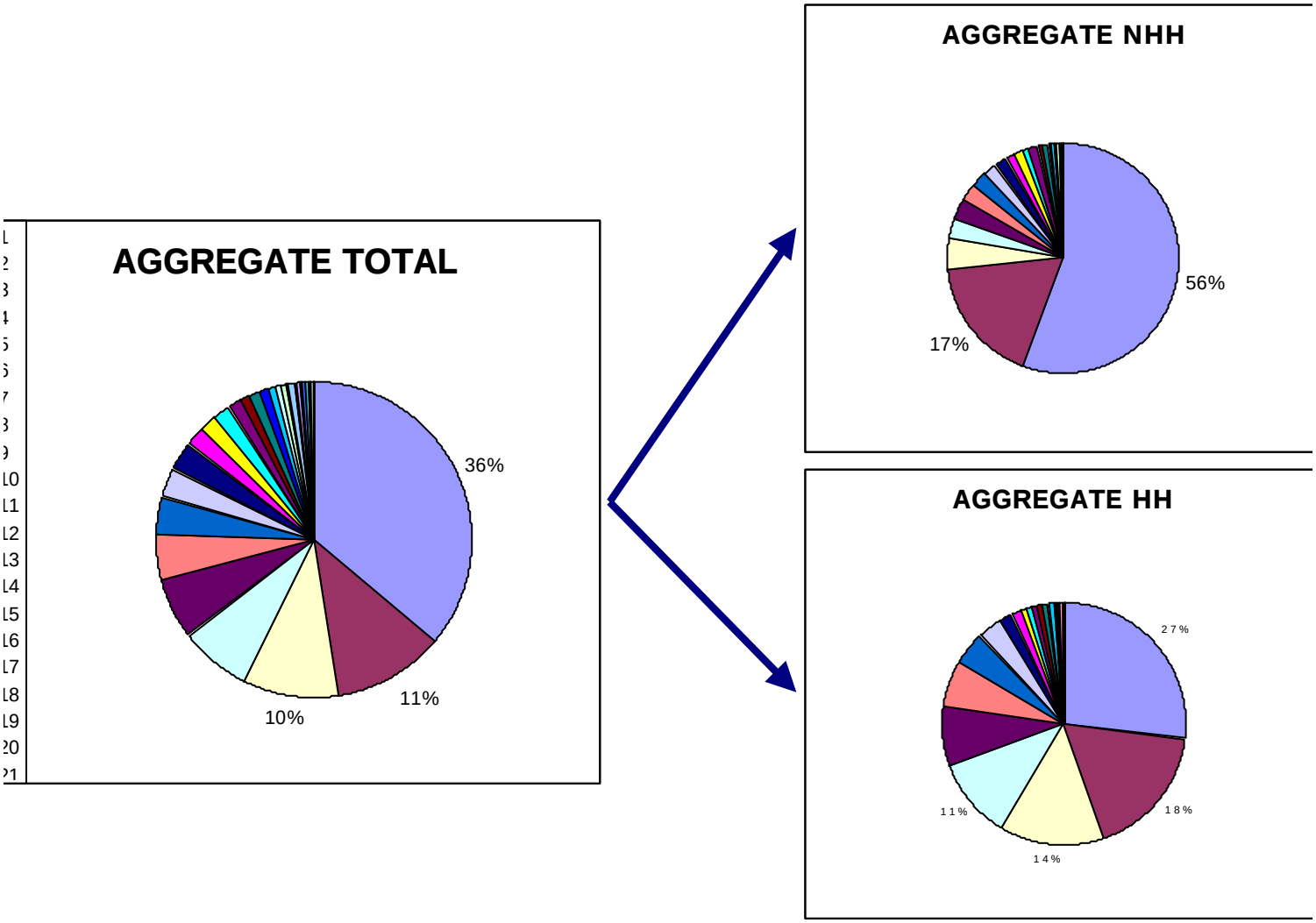
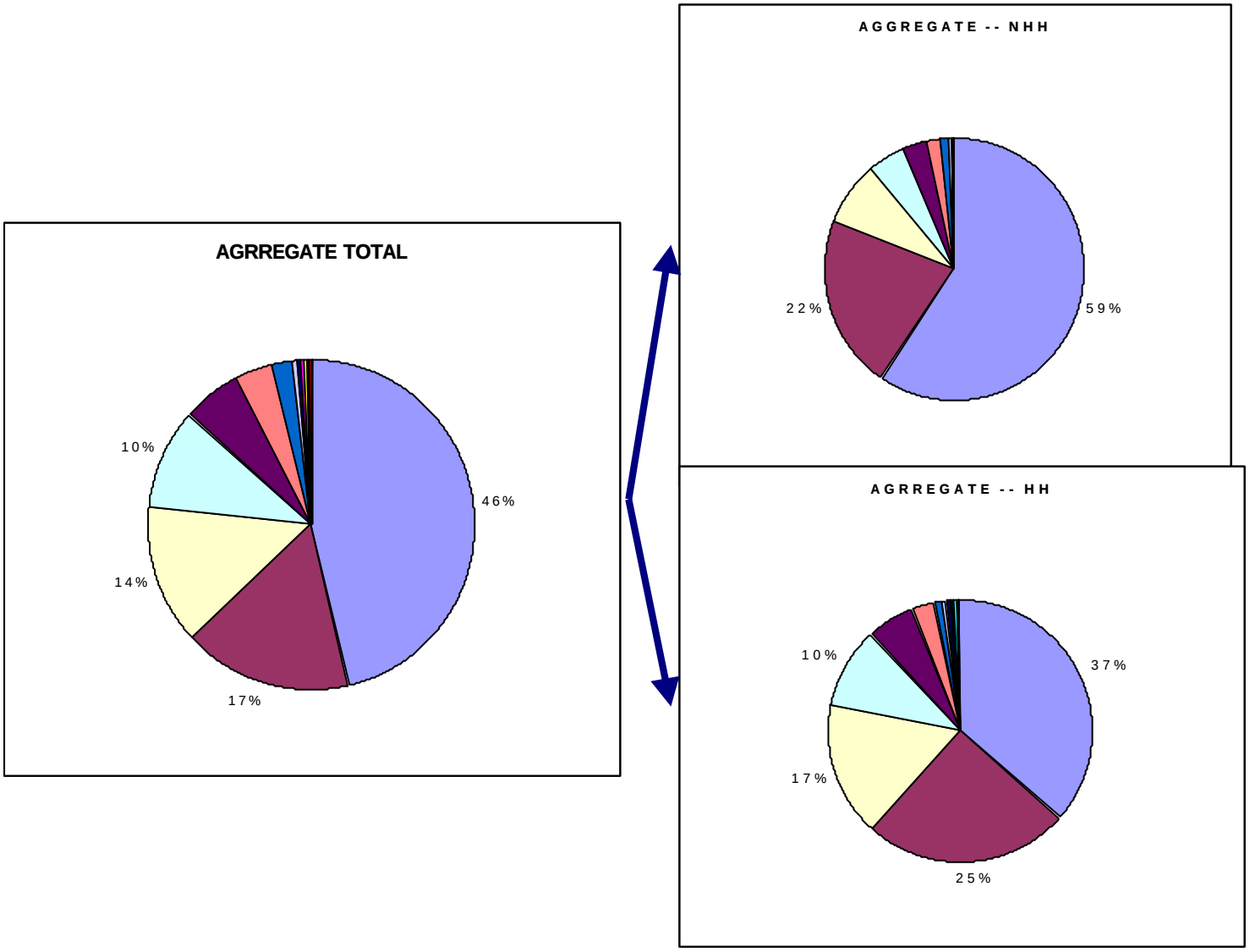


Figure 3B



ANNEX 6 – DRAFT LEGAL TEXT

MODIFICATION PROPOSAL P100

DRAFT LEGAL TEXT

Amend paragraph 1.5 as shown below:

SECTION K (V7.0)

1.5 Exemptable Generating Plant

1.5.1 Where any Party which is or is to be responsible for any Generating Plant intends to effect any registration (other than ~~Generating Plant whose Exports are or are~~the making of an election as referred to ~~be measured by~~in paragraph 1.2.2(a)(ii)(2) in the case of an SVA Metering System~~(s))~~ ~~intends to effect any registration~~ or take any other step in pursuance of any provision of this Section K which applies by reason of that Generating Plant being Exemptable, subject to paragraph 1.5.7, that Party shall first provide to BSCCo details of the Generating Plant and the reasons for which the Party believes the Generating Plant to be Exemptable.

1.5.2 Within 20 Business Days after receiving any notification under paragraph 1.5.1 BSCCo shall:

(a) take such measures as it considers appropriate to verify whether or not the Generating Plant is Exemptable, and

~~(b)~~ (b) notify the Party of its conclusions.

1.5.3 The Party shall provide such further details as BSCCo may reasonably request for the purposes of such verification.

1.5.4 Where the Party disagrees with the conclusions of BSCCo under paragraph 1.5.2(b), that Party may refer the matter to the Panel, and the Panel shall determine whether (in its opinion) the Generating Plant is Exemptable, and notify to the Party its determination which shall be binding for the purposes of the Code subject to paragraph 1.5.5.

1.5.5 Within 20 Business Days after the Panel has notified its determination under paragraph 1.5.4, the Party may, if it wishes the matter to be determined by the Authority, refer to the Authority the question of whether the Generating Plant is Exemptable.

1.5.6 Wherever pursuant to this Section K the CRA or CDCA receives any application for or other notification of a registration or step within paragraph 1.5.1, the CRA or CDCA shall apply to BSCCo for confirmation as to whether the Generating Plant in question is Exemptable, and shall not validate or accept the same unless BSCCo has given such confirmation.

~~**3.4 Demand Capacity and Generation Capacity**~~

1.5.7 In the case of Generating Plant whose Exports are measured by SVA Metering Systems, BSCCo may:

(a) require the Party to provide (instead of details and reasons as referred to in paragraph 1.5.1) a certificate, signed by a director of that Party, as to the matters referred to in that paragraph (and may require the Party pursuant to Section U1.2.3 to update such certificate from time to time), and

(b) rely on that certificate instead of taking measures under paragraph 1.5.2.

1.5.8 Where:

(a) it has been determined in accordance with the foregoing provisions that particular Generating Plant is Exemptable, and

(b) at any later time BSCCo becomes aware of any change in relevant circumstances or otherwise has good reason to believe that the position may be different

BSCCo may require that the relevant Party to comply or comply again with paragraph 1.5.1 or 1.5.7(a).

Insert new paragraph 3.3A as follows:

3.3A Exempt Export BM Units

A Supplier BM Unit shall not be classified as an Exempt Export BM Unit unless (disregarding paragraph 3.1.4(e)) the BM Unit would, if the Metering System(s) comprised in the BM Unit were CVA Metering Systems, satisfy the requirements in paragraph 3.1.2, for which purposes paragraph 3.1.6 shall apply as if the question referred to therein were whether the configuration of Plant and Apparatus comprised in the BM Unit satisfies (or best satisfies) those requirements.

Amend paragraph 3.5.5 as shown below:

3.5.5 In the case of an Exempt Export BM Unit, irrespective of the Trading Unit to which the BM Unit belongs ~~to a Sole Trading Unit (in accordance with paragraph 4.1.3)~~, the Lead Party may from time to time elect, by notice to BSCCo and the CRA, whether the P/C Status of the BM Unit is to be Production or Consumption, provided that:

(a) no such election shall be effective until 28 days (or if later the effective date requested by the Lead Party) after such notice was given to BSCCo and the CRA;

(b) in the absence of such an election, the P/C Status of the BM Unit shall be determined in accordance with paragraph 3.5.2.

Amend paragraph 4 as shown below:

4. TRADING UNITS

4.1 General

4.1.1 A combination of BM Units, with the same or different Lead Parties, may be identified as a Trading Unit in accordance with this paragraph 4 and Annex K-2, in which case each such BM Unit shall be described as 'belonging' to that Trading Unit.

4.1.2 The basis on which BM Units belong to Trading Units shall be determined:

(a) in relation to a Supplier BM Unit which is not an Exempt Export BM Unit, in accordance with paragraph 4.7;

(b) in relation to an Exempt Export BM Unit, in accordance with paragraph 4.7 or paragraphs 4.2 to 4.6 as the Lead Party shall (in accordance with paragraph 4.7.3) determine;

(c) in relation to any other BM Unit (subject to paragraph 5.7), in accordance with paragraphs 4.2 to 4.6;

and references to a "**relevant**" BM Unit in paragraphs 4.2 to 4.6 (and in this paragraph 4.1) shall be construed accordingly.

4.1.3 A relevant BM Unit shall belong to a Trading Unit with effect from the registration of the Trading Unit pursuant to paragraph 4.5.

~~4.1.3~~4.1.4 Where a relevant BM Unit does not belong, or ceases to belong, to a Trading Unit comprising one or more other BM Units, that BM Unit shall itself constitute a Trading Unit.

~~4.1.4~~4.1.5 A BM Unit may not belong to more than one Trading Unit at any given time.

4.2 Application

4.2.1 A Party may apply to the Panel for a combination of relevant BM Units (the "**nominated**" BM Units) to be treated as a Trading Unit by sending to the Panel a written application ("**Trading Unit Application**") stating the class of application and containing the other information and supported by the documents and other matters referred to in BSCP 31 and signed by or on behalf of the Lead Parties for each of the BM Units concerned.

4.2.2 A Trading Unit Application shall be made in accordance with and subject to BSCP 31.

4.2.3 A Trading Unit Application may be made in advance of registration of the relevant BM Units in accordance with BSCP 31.

4.2.4 Annex K-2 shall apply in respect of any Trading Unit Application.

4.3 Decision

4.3.1 The Panel shall consider any Trading Unit Application in accordance with Annex K-2 and BSCP 31, and shall make a determination as to whether the nominated BM Units may be treated as a single Trading Unit and shall promptly notify the Trading Unit Applicants and the CRA of its determination.

4.4 ~~Exempt Export BM Unit~~

~~4.4.1 Where:~~

~~(a) any relevant BM Unit(s) (the "**TU BM Unit(s)**") belong to a Trading Unit (either a Sole Trading Unit or a Trading Unit registered in accordance with paragraph 4.5, and~~

~~(b) there are any Exempt Export BM Unit(s) in the same GSP Group as the TU BM Unit(s),~~

~~then the Lead Party for any such Exempt Export BM Unit may, by notice in writing to the CRA and BSCCo given jointly with the Lead Party(ies) for the TU BM Unit(s), elect that the Exempt Export BM Unit shall belong to the Trading Unit, irrespective of the requirements in Annex K-2.~~

~~4.4.2 For the purposes of paragraph 4.4.1, a relevant BM Unit is any BM Unit (including for the avoidance of doubt another Exempt Export BM Unit) other than one comprising Metering System(s) which are registered in CMRS pursuant to paragraph 2.1.1.~~

~~4.4.3 A notice of election under paragraph 4.4.1 shall specify:~~

~~(a) the identity of the Lead Party(ies) for the Exempt Export BM Unit(s) and for each of the TU BM Units;~~

~~(b) the Exempt Export BM Unit(s) and the TU BM Units;~~

~~(c) the Trading Unit; and~~

~~(d) the date with effect from which the election is to take effect.~~

~~4.4.4 An election under paragraph 4.4.1 will become effective (and the registration of the Trading Unit will be amended) on and from the later of:~~

~~(a) the date specified in the notice of election pursuant to paragraph 4.4.3(d); and~~

~~(b) the date on which all of the requirements specified for such effectiveness in BSCP 31 have been satisfied.~~

~~4.4.5 Where the TU BM Unit belonged to a Sole Trading Unit, the Trading Unit shall (with effect from the time from which it includes the Exempt Export BM Unit) cease to be a Sole Trading Unit.~~**Not used**

4.5 Registration of Trading Units

4.5.1 Where a Trading Unit Application has been approved, the Trading Unit Applicants may, at any time after the Panel notified its determination under paragraph 4.3 (but subject to paragraph 4.6.6), register the Trading Unit by giving notice to the CRA:

(a) referring to the Panel's determination, and

(b) specifying:

(i) the identity of the Trading Unit Applicants;

(ii) for each such applicant, the relevant BM Unit(s) for which it is Lead Party which are to belong to the Trading Unit;

(iii) the class (in accordance with Annex K-2) of Trading Unit; and

(iv) the date with effect from which the Trading Unit is to be registered.

4.5.2 An application to register a Trading Unit shall be made in accordance with and subject to BSCP 31.

4.5.3 The CRA shall in accordance with BSCP 31 validate and process an application to register a Trading Unit.

4.5.4 Registration of a Trading Unit will be effective on and from the later of:

(a) the date specified by the applicants pursuant to paragraph 4.5.1(b)(iv), and

(b) the date on which all of the requirements specified for such effectiveness in BSCP 31 have been satisfied.

4.6 Withdrawal

4.6.1 The Lead Party of any relevant BM Unit which belongs to a Trading Unit (other than a Sole Trading Unit) may terminate the registration of the Trading Unit by giving notice to the CRA and each of the Lead Parties for other relevant BM Units belonging to the Trading Unit, specifying the Trading Unit and the date with effect from which such registration is to be terminated.

4.6.2 Notice of termination of the registration of the Trading Unit shall be given in accordance with and subject to BSCP 31.

4.6.3 Termination of the registration of the Trading Unit shall be effective from later of the date specified in the notice of termination and the date (in accordance with BSCP 31) on which the CRA processes the notice.

4.6.4 With effect from the termination of the registration of a Trading Unit, each of the BM Units belonging to the Trading Unit shall belong to a Sole Trading Unit, except to the extent to which one or more different Trading Units, including any of such relevant BM Units, have been established and registered in accordance with this paragraph 4.

4.6.5 Where a relevant BM Unit belongs to a Sole Trading Unit, it shall automatically cease to do so upon the registration of any other Trading Unit to which it belongs.

4.6.6 If at any time the Panel determines that the relevant BM Units belonging to a Trading Unit no longer satisfy the requirements on the basis of which the Trading Unit was accepted by the Panel, the registration of the Trading Unit shall be terminated.

4.6.7 ~~4.6.7~~ The Lead Party of each BM Unit belonging to a Trading Unit shall forthwith notify the Panel if the BM Units belonging to a Trading Unit no longer satisfy the requirements referred to in paragraph 4.6.6.

4.7 Base Trading Units

4.7.1 There shall automatically be established a Trading Unit (a "**Base Trading Unit**") in respect of each GSP Group.

4.7.2 Subject to paragraph 4.7.3:

(a) each Supplier BM Unit shall automatically belong to the Base Trading Unit for the relevant GSP Group; and

(b) each Exempt Export BM Unit in a GSP Group shall automatically belong to the Base Trading Unit for that GSP Group.

4.7.3 The Lead Party of an Exempt Export BM Unit may, by notice in writing to the CRA and BSCCo in accordance with (and with effect as specified in) BSCP 31, elect that the BM Unit shall not belong to the applicable Base Trading Unit, in which case the Trading Unit to which such BM Unit belongs shall be determined in accordance with paragraphs 4.2 to 4.6 (or where applicable paragraph 4.1.3).

4.7.4 The Lead Party of an Exempt Export BM Unit may, by notice in writing to the CRA and BSCCo in accordance with (and with effect as specified in) BSCP 31, withdraw an election under paragraph 4.7.3.

ANNEX K-2 (V7.0)

TRADING UNIT APPLICATIONS

Amend paragraph 1.5 as shown below:

1.5~~1.5~~Class 4

1.5.1 If the Trading Unit Application shall state that it is a Class 4 application then the Panel shall determine from the Trading Unit Application and supporting documentation and other matters (and any further evidence provided in accordance with paragraph 1.7) if all of the nominated BM Units are ~~Supplier~~Exempt Export BM Units ~~which~~and are located in the same GSP Group, in which event the nominated BM Units shall be treated as belonging to a single Trading Unit.

ANNEX X-1 (V9.0)

Amend the definition of Exempt Export BM Unit to read as follows:

"**Exempt Export BM Unit**"	means a BM Unit which comprises ~~only CVA Metering System(s) associatd with~~ Exemptable Generating Plant, for which the Lead Party is the Party responsible for Exports, subject to Section K3.3A;