

AMENDMENT REPORT

CUSC Proposed Amendment CAP148

Deemed Access to the GB Transmission System for Renewable Generators

The purpose of this report is to assist the Authority in their decision of whether to implement Amendment Proposal CAP148

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1.0 SUMMARY AND RECOMMENDATIONS

Executive Summary

- 1.1 CAP148, Deemed Access Rights to the GB Transmission System for Renewable Generators, was proposed by Mike Davies of Wind Energy (Forse) Limited and submitted to the CUSC Amendments Panel for consideration at their meeting on 27th April 2007. CAP 148 seeks to prioritise use of the GB Transmission System by new renewable generators in accordance with the Renewables Directive 2001/77, Article 7. CAP 148 original contains two main components:
- Provisions to ensure a renewable generator gains access to the GB Transmission System on the earlier of
 - (1) the date by which National Grid can deliver Transmission Entry Capacity (“TEC”); or
 - (2) three years after the later of:
 - (i) the date on which the generator obtains its project planning consents; or
 - (ii) the date on which it accepts a Connection Offer from National Grid;subject in both cases (1) and (2) to a local connection having been consented and commissioned, and
 - Provisions to enable administered constraint payments to be made to generators that have to be constrained down/off as a consequence of the GB Transmission System being unable to meet the usage requirements of generators with TEC and DTEC (Deemed TEC). Such administered Interruption Payments would be charged out via the TNUoS Charging methodology.
- 1.2 Implementation of any of the WGAAAs and particularly CAP 148 original would require significant consequential changes to other industry documents. This report indicates where National Grid and the WG believe changes are required. The details of such changes would be the subject of separate assessment processes.
- 1.3 Following the August 2007 Transmission Charging Methodologies Forum National Grid produced an open letter to assist readers of the consultation in understanding the potential consequences of the WGAAAs on the Charging Methodologies¹.
- 1.4 Given the magnitude of the potential consequential changes to other codes, processes and systems, National Grid has indicated it would only take changes forward following direction by Ofgem. Given the lead time prior to the first DTEC party being connected, other than for SQSS derogations, National Grid believes there is sufficient time to develop

¹http://www.nationalgrid.com/NR/rdonlyres/1D5ACF49-FEB3-4759-A0CC-8082A88126FD/20357/CAP148Charging_OpenLetter.pdf

and implement consequential changes to Industry documents, processes and computer systems following direction by the Authority.

- 1.5 The CAP 148 consultation document was published on 28 September 2007. 15 responses were received to the consultation. 7 respondents believed the original or an alternative better supported the Applicable CUSC objective (a) and (b) compared to the current CUSC. 8 respondents did not believe that either the original or an alternative better supported the Applicable CUSC objective (a) and (b) compared to the current CUSC.
- 1.6 A number of respondents (both those supporting and not supporting) noted potential benefits that are outside the applicable objectives of the CUSC and that such benefits should be addressed in a Regulatory Impact Assessment. A number of respondents expressed support for combinations of options that were not WGAA's, but decided not to raise consultation alternatives.

National Grid Recommendation

- 1.7 National Grid does not support the Original Amendment proposal or any of the alternatives, believing that they would not better facilitate achievement of the Applicable CUSC objectives (a) and (b).
- 1.8 The principal argument in favour of discrimination for new renewables was that it would support a particular element of wider government policy, rather than bettering the achievement of the CUSC objectives. National Grid does not believe that the case presented at the working group for discrimination was sufficient to justify the discrimination proposed in the context of the CUSC objectives. Furthermore National Grid does not believe treating a particular class of generator in the manner proposed by CAP 148, early connection and preferential despatch, would better facilitate competition.
- 1.9 National Grid has indicated that should either the original or an alternative be approved that under the current licence objectives National Grid would seek to introduce a cost reflective charge for DTEC. A key element of CAP148 or any of the WGAA is that DTEC is mandatory. National Grid agrees with the views expressed in the WG that should either the original or an alternative be accepted, applying cost reflective charges for early connection alongside mandatory application of DTEC could actually be counter productive to the wider development of new renewable generation.

Amendment Panel Recommendation

- 1.10 The Panel undertook a vote on the Original and each alternative as compared to the CUSC baseline where they better, then a vote as to which they considered to be the best overall. The result of this voting was as follows:

Original – No - unanimous
WGAA 1 (4CX) – No - unanimous
WGAA 2 (4BX) – No- unanimous
WGAA 3 (4CY) – No- unanimous
WGAA 4 (3BX) – No- unanimous
WGAA 5 (4AX) – No- unanimous

BEST overall – N/A

2.0 PURPOSE AND INTRODUCTION

- 2.1 This Amendment Report has been prepared by National Grid under the rules and procedures specified in the Connection and Use of System Code (CUSC) as designated by the Secretary of State.
- 2.2 Further to the submission of Amendment Proposal CAP148 (see ANNEX 3 – AMENDMENT PROPOSAL FORM); evaluation by working group and the subsequent wider industry consultation that was undertaken by National Grid, this document is addressed and furnished to the Gas and Electricity Markets Authority (“the Authority”) in order to assist them in their decision whether to implement Amendment Proposal CAP148.
- 2.3 CAP148 was proposed by Mike Davies of Wind Energy (Forse) Limited and submitted to the CUSC Amendments Panel for consideration at their meeting on 27th April 2007. The substance of the amendment had previously been submitted to the February meeting of the Amendments Panel as CAP147. Following discussion at the panel meeting the amendment (CAP 147) was withdrawn by the proposer whilst advice was sought on concerns raised by the Panel from Ofgem and DTI. The response from Ofgem and DTI and CAP 148 were then considered together in the April Amendments Panel meeting.
- 2.4 In the April Amendments Panel meeting the Panel agreed CAP148 should proceed to working group stage. The CAP148 Working Group report was submitted to the Amendment panel for the 31 August 2007. Following discussion the Panel requested a number of minor changes. The Panel subsequently agreed the final Working Group report by correspondence and further agreed that CAP 148 should proceed to wider industry consultation by National Grid in accordance with the CUSC.

- 2.5 The consultation document was published on 28 September 2007. With a 4 week consultation it closed on the 26th October 2007. National Grid received with thirteen responses by 26th October 2007. National Grid subsequently received two late responses that have also been included in this report.
- 2.6 National Grid indicted at the August 2007 Transmission Charging Methodologies Forum, TCMF, that should CAP148 original or a WGAA be implemented National Grid would take forward a number of consequential changes to the current charging methodology based on interpretation of the charging objectives in the transmission licence. Details of the discussion at TCMF and a summary paper presenting National Grid's thoughts are available on the charging web site². Given the magnitude of the potential changes National Grid indicted it would only proceed with further development of charging methodologies or systems following direction to implement the original or an alternative by the Authority, unless advised otherwise by Ofgem.
- 2.7 This report includes legal drafting for the CUSC for WGAA 2. This basic text can be developed to support the other WGAA's relatively easily, however due to the overall size and the limited support for some of the alternatives and the original specific drafting was not developed or include in this report. Additional drafting would required be for the original proposal. This approach is in line with discussion at the WG and Panel and has also been confirmed with Ofgem.
- 2.8 This document outlines the nature of the CUSC changes that are proposed. It incorporates National Grid's recommendations to the Authority concerning the Amendment. Copies of all representations received in response to the consultation have been also been included and a 'summary' of the representations received is also provided.
- 2.9 This Amendment Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid website³. This report has been published in three section due to the overall size. The three parts are:
- i The main body of the report up to and including ANNEX1
 - ii ANNEX 2, CUSC legal drafting for WGAA2
 - iii ANNEX 3 onwards, including representation made during the consultation

² <http://www.nationalgrid.com/uk/Electricity/Charges/>

³ www.nationalgrid.com/uk/Electricity/Codes/.

3.0 PROPOSED AMENDMENT

- 3.1 The full text of the CAP 148 is set out in ANNEX 3 – AMENDMENT PROPOSAL FORM. CAP 148 was put forward on the basis that, in the proposer opinion, it would ‘prioritise connection to and use of the GB Transmission System, in accordance with the EU Renewables Directive 2001/77, Article 7’. It seeks to achieve this by ensuring new eligible renewable generators are given commercially firm access to the Transmission System by a fixed date and then have priority despatch once connected:
- new eligible renewable generators would have a new access product known as Deemed Transmission Entry Capacity (DTEC) which will confer commercial firmness on the generator regardless of the commissioning or not of any associated wider system reinforcement.
 - in the event of constraints on the GB Transmission System, National Grid would be obliged to constrain existing generators with TEC (including renewable generators with TEC) before generation with DTEC.
- 3.2 The original amendment also included a system of administered Interruption Payments. These would be paid to constrained generation in the event of constraints arising from facilitating DTEC. The proposer suggested that these payments would be collected through the Transmission Use of System (TNUoS) charging system and would cover the ‘associated losses’ of the constrained generators. As well as the revenue flow for the Interruption Payments the proposer also indicated the basis of the original proposal was that that DTEC generators should be charged TNUoS and BSUoS (Annex II to the amendment proposal).
- 3.4 National Grid has discussed the issue of charging at the TCMF and does not agree that it would be appropriate to manage the Interruption payments and charges for DTEC through TNUoS. The issues with charging are discussed in the letter released by National Grid at the same time as the CAP 148 consultation. National Grid continues to believe that under the current licence conditions relevant to transmission charging, that charges for DTEC should be cost reflective, so far as practicable and proportionate.
- 3.5 CAP 148 would require a significant number of consequential changes, some of which would be substantial, to other industry codes, processes and computer systems to implement the changes proposed in CAP 148.

4.0 SUMMARY OF WORKING GROUP DISCUSSION

- 4.1 Recognising that the role of the Working Group (WG) was to assess the amendment proposal against the CUSC Applicable Objectives, the WG looked at the regulatory and legislative context because of the

fundamental nature of the proposal and the direct link drawn to government policy and EU Directives. The WG also drew help from the Ofgem/CUSC Panel correspondence about the nature of discrimination.

- 4.2 The WG then went on to define the characteristics of the DTEC product and the operational issues and processes associated with using DTEC. It considered the impact on system security, the maintenance of the reliability & safety of the grid, longer term planning and investment, as well as SQSS. En route the WG sketched the impact on other industry codes and documents and operating and IT systems. The WG went on to consider a number of candidates for Working Group Alternative Amendments (WGAA), and finally the WG considered the original proposal and candidate WGAA's against the Applicable Objectives of the CUSC and the Implementation Date.

National Grid Licence, Markets Directive, Renewable Directive & Environmental Directive

- 4.3 The WG had the benefit of legal advice sought for the CUSC Panel covering a number of issues related to the assessment and decision process for the proposed amendment, as well as correspondence between the CUSC Panel and Ofgem and discussions at the CUSC Panel. In line with its terms of reference agreed by the CUSC Panel the WG completed the assessment phase, noting the further opportunities for interested parties to raise legal issues during consultation and during the decision phase when the assessment report is with Ofgem.

Deemed TEC (DTEC) Product Definition

TEC and DTEC Attributes

- 4.4 In the event of implementation of the amendment proposal, there will be two broad categories of generating plant created: those eligible for DTEC and those not. These will be termed DTEC generators and TEC (Transmission Entry Capacity) generators respectively for the purpose of this discussion. DTEC is in most respects very similar to TEC and so the WG focused on defining those attributes that were different from TEC. Note, TEC is not the access right itself but the limit (in MW) up to which a user can exercise the rights under the CUSC. Whereas DTEC is defined as a product, the limit to which an eligible generator can exercise the rights associated with DTEC is also defined in the appropriate bilateral agreement.
- 4.5 This section emphasises some of the attributes that would be the same between generation with access limited by TEC (for simplicity only referred to as 'TEC holders') and those eligible for DTEC (for simplicity referred to as DTEC holders). Nevertheless, readers should be aware that a lack of explicit mention of an attribute here does not mean that TEC and DTEC are different in this respect.

Eligibility

- 4.6 The WG considered and clarified which generators, under which circumstances would qualify for DTEC. Eligibility would be determined by satisfying conditions regarding timing of connection agreement and conditions regarding renewable status.

Timing of Eligibility

- 4.7 DTEC would only routinely become available to generators who were **not** connected directly or indirectly (via a BEGA) prior to the implementation of CAP148. As well as new projects this would mean that existing plant that made a Modification Application for revisions to its connection (to increase its export capacity after the implementation of CAP148 might be able to gain DTEC (for such additional output) subject to its renewable status being eligible. This example is considered further below.

Renewable Status

- 4.8 CAP 148 defines the types of generation that would be eligible to apply for DTEC by reference to the Electricity (Guarantees of Origin of Electricity Produced from Renewable Sources) Regulations 2003 DTI, see ANNEX 5 - Electricity (Guarantees of Origin of Electricity Produced from Renewable Sources) Regulations 2003. Under these regulations Users receive certificates, known as REGOs, where their output has been generated from renewable sources. Note that the definition of renewable energy sources under these regulations makes the operational attributes of the generation technology, such as the 'intermittency' of wind generation, irrelevant to the eligibility for DTEC. Within the group of qualifying technologies there are basically three groups:

- i) technologies that can only produce eligible electricity such as wind or hydro-generation,
- ii) technologies that can produce a proportion (up to 100%) of qualifying output such as co-fired generation, and
- iii) pumped hydroelectric plant.

These are considered in turn below. For the avoidance of doubt it should be noted that CHP generation is not REGO qualifying.

- 4.9 For plant of this type the principle and volume of eligibility should be easy to demonstrate as 100% of their output is clearly REGO qualifying.

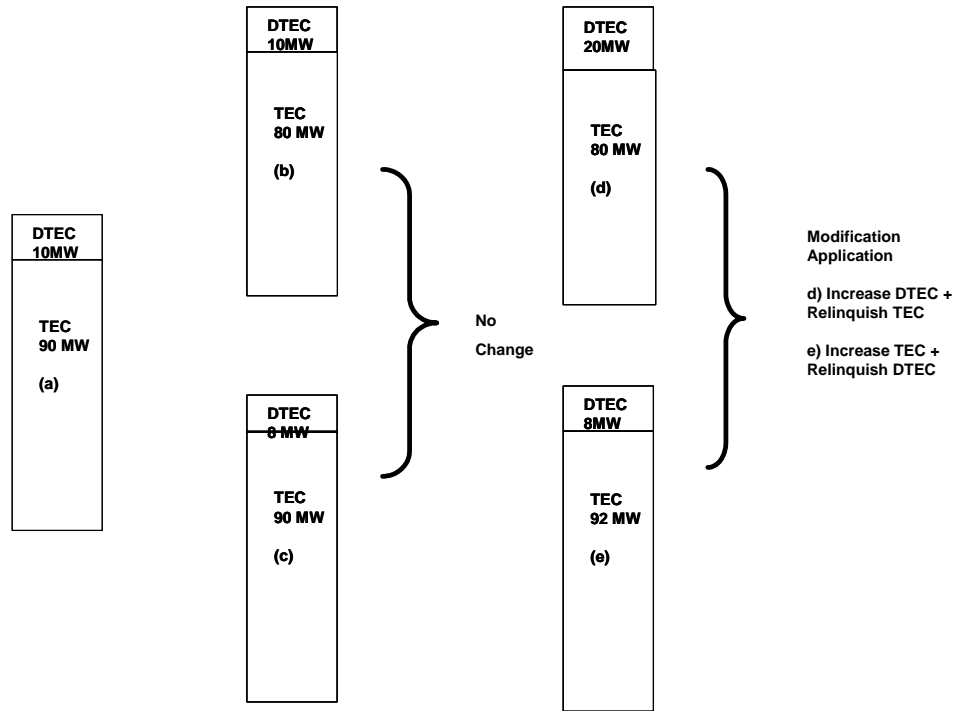
Proportionally Qualifying Plant

- 4.10 Demonstration of qualification is more problematic for these plants. For example, co-fired generation is eligible for REGOs but only on the portion of output that has been produced from energy crops. It can therefore be assumed that co-fired generation would be eligible to apply for an amount of DTEC capacity proportionate to its use of renewable fuels. However the proportion of use of renewable fuels will be determined by the relative costs of qualifying and non-qualifying fuels (which varies over time). This poses challenges for initial

connection and subsequent operation. In extremis, an eligible generator could sign a 'DTEC' connection agreement with the early access this would promise and then find on commissioning that it is uneconomic to produce this proportion of qualifying output.

- 4.11 After further analysis WG Members concluded that it would be rare for a connection to be an issue for proportionally qualifying plant. In general, if the plant required both TEC and DTEC, then the connection date would be determined by the time taken to achieve TEC; DTEC would confer no connection time benefit. If the plant to be connected could be specified separately as TEC or DTEC plant (e.g. the plant had 4 generating units of which 1 only would be REGO qualifying and this one generating unit could be connected and commissioned prior to the other 3) then the developer could sign two connection agreements: one for DTEC and one for TEC, and hence gain the connection advantage for the DTEC plant. Therefore, WG members concluded that with regard to the connection time benefits of DTEC, an appropriate due discrimination on pragmatic grounds would be to exclude proportionally qualifying plant from the eligible set of REGO generators that could benefit from the connection advantages conferred by being able to sign a connection agreement for DTEC generation.
- 4.12 Once the plant is connected, during normal operation the number of REGOs produced over the course of the year will vary, but the DTEC is an annual stripe of access capacity. If the amount of eligible generation is less than the DTEC, but the total amount of generation remains the same, the generator would have to relinquish DTEC and apply for TEC, a process lasting approximately 3 months, assuming that TEC is available in that location. This would introduce an operational inflexibility as the plant operator tries to optimise output against a varying availability and price of eligible and non-eligible fuels. A number of WG members believed that the process would be so operationally inflexible for co-fired generation as to be practically unusable; all WG members believed it would be difficult to make work.

4.13 These issues are illustrated diagrammatically below:



The plant originally has 90MW of TEC and 10 MW DTEC (a). For so long as its eligible output does not exceed its DTEC holding and its non-eligible output does not exceed its TEC holding ((b) or (c)) no action is required. If either the generator wants to produce more eligible or non-eligible output than it has DTEC or TEC capacity respectively ((d) or (e)), then it would need to go through the Modification Application process. It should be noted that in the examples below ((d) or (e)) the total output does not exceed the sum of TEC+DTEC.

4.14 WG Members also noted that National Grid would have the obligation to treat the DTEC and TEC elements of the output of the same proportionally qualifying plant differently with regard to constraint management and National Grid would need to know operationally what the relative volumes were. Even if the generator were able to generate an approximately constant volume of REGO eligible electricity, there would still be the problem of demonstrating, in an auditable way, that the average generation over the year was equal to the DTEC volume. This obligation would rest on the generator, but National Grid would have to develop an administrative system to deal with this.

4.15 In view of the complexities identified above some WG members suggested that mixed TEC/DTEC generators should not be eligible for DTEC, although the original amendment would define Proportionally Qualifying Plant as proportionally eligible for DTEC.

Mixed Holding Plant

- 4.16 As well as arising from co-fired plant, the WG discussed more generally whether or not a generator could hold both TEC and DTEC on the same Connection Site. The thrust of the amendment proposal is that new renewable generation will be eligible for DTEC. For existing sites, members anticipated that DTEC would be available for new additional capacity qualifying as REGO renewable generation. Therefore members could envisage a two-stage wind development, for which the currently operational stage I would have and maintain TEC, whilst the new stage II would have DTEC. If an existing wind development were to re-plant its turbines so that the total number of turbines remained the same, but the capacity increased, under the terms of the amendment as proposed, only the increase in capacity above the original TEC value would be eligible for DTEC.
- 4.17 The WG also considered that, within the terms of the original amendment, such an existing renewable TEC generator could terminate its existing connection agreement and seek a new connection agreement for only DTEC. However, this is not without risk. At the point of termination the generator would surrender its TEC (into the pool of TEC) and it would not be guaranteed to gain its DTEC until 3 years' time. As an alternative, such a generator might consider giving three years' notice of surrender of its TEC and seek a new connection agreement with only DTEC, although possible the WG did not pursue this line of argument any further, but noted there were further complexities associated with replanting by existing renewable TEC generators. National Grid expressed concern about managing the constraints aspects of the amendment with mixed-holding sites.

Pumped Hydroelectric Plant

- 4.18 For pumped hydroelectric plant, REGOs are issued for any electricity from a renewable source that is used to fill a storage system but not for the electricity generated from opening that storage system. Therefore the WG interpreted this as meaning that electricity exported from the pumped hydroelectric scheme would not be qualifying and such a generator could not apply for DTEC. However, the WG noted that some pumped hydro-electric schemes have run-of-river run-off generation as well as the pumped water. This type of scheme would be classified as 'Proportionally Qualifying Plant' mixed holding and would face the issues outlined above.

Intermittency

- 4.19 A WG member suggested that a sub-set of the REGO qualification should be adopted (instead of the definition proposed in the original amendment proposal). The variant is that eligible generators would be REGO producing, but limited to intermittent generation technologies and excluding proportionally qualifying such as co-fired. Intermittent generation would be defined as generation technologies for which the fuel source is variable with time and over which the generator can only have limited or no control. Practical examples of 'intermittent generation' would be wind, hydro-electric, tidal and marine, and solar

PV. The WG member proposed that limitation to this sub-set of REGO generators would maximise the use of zero operational carbon emission generation, in pursuit of the Government's renewable target. The exclusion of proportionally qualifying plant was on the additional grounds of practicality.

Low Carbon Generation

- 4.20 A WG member suggested a different approach to eligibility (instead of the definition proposed for the original amendment), namely that low carbon generation would be eligible for DTEC. Low carbon would be defined as having an operational value for carbon dioxide emitted to the atmosphere per MWh generated that is lower than a cap value:

$$[\text{CO}_2 \text{ emitted (tonnes)/MWh generated}] \leq X;$$

where X takes a value of 0.2

- 4.21 In principle this approach would lead to technologies such as REGO generating, coal or gas with carbon capture and storage, nuclear, good quality CHP, all being eligible for DTEC, depending on their operational carbon emissions per MWh generated being lower than a cap. As the cap value 'X' is the criterion, in principle specific examples of the above technologies may or may not qualify for DTEC, depending on their carbon emission performance. Additionally, the WG member proposed that Proportionally Qualifying Plant technologies should be excluded from qualifying for 'low carbon' defined DTEC) as a matter of practicality. The value for 'X' of 0.2 arises from the clean coal qualifying criteria set out in the Energy White Paper, 2007. Most if not all clean coal projects with CCS will have to capture 85%-90% of CO₂ to qualify for HMG's subsidy "competition" as per Energy White Paper p.176 (Para 5.4.21). Consequently, conventional coal has a carbon intensity (CI) of 0.9t/MWh, so 10%-15% gives a CI of 0.1t/MWh to 0.14t/MWh. Therefore a cap of 0.2 is a useful value to separate current from future carbon-based technologies.

Optionality

- 4.22 The proposer of CAP 148 clarified and WG members agreed that in order to achieve the goal of the proposal DTEC would have to be mandatory for all eligible generators. Because of the issues facing Proportionally Qualifying Plant sites outlined above, a WG member suggested that for such sites, it should be possible for the User to elect to only have TEC for both its non-eligible and eligible capacity.
- 4.23 National Grid understands that the proposer indicated mandatory application on the basis that additional constraint costs would be passed through TNUoS (as suggested by the proposer). With a cost reflective charging regime for the additional constraints the mandatory application adds additional risks and therefore mandatory may no longer be the preferred option.

Capping

- 4.24 WG Members agreed that in line with all existing access products DTEC access would be capped at the level of CEC such that over a Connection Site:

$$\Sigma (\text{TEC} + \text{STTEC} + \text{LDTEC} + \text{DTEC}) \leq \text{CEC}$$

Trading DTEC

- 4.25 This amendment proposal does not include provisions for DTEC trading between qualifying sites. Therefore if the amendment were to be implemented, there would be no means by which DTEC could be traded; obviously, a further amendment proposal could be made in the future to introduce such trading. Similarly there would be no means by which DTEC and TEC could be cross-traded. WG members briefly considered trading of DTEC and noted that although, in principle, generator/developers must be capable of trading DTEC nevertheless the attributes of DTEC would make it unlikely that this would happen frequently. Any eligible candidate for DTEC must (according to the amendment proposal) receive it 3 years after the later of signing a connection agreement or receiving planning approval for the power station, anyway (subject to other conditionality mentioned in the proposal). Additionally, it was not clear how National Grid could calculate an exchange rate higher than zero, unless exchanges would be allowed that exacerbated constraints (this is explicitly disallowed for TEC trades and exchanges). Nevertheless, in the longer term the WG believed that the volume of DTEC on the system would be likely to increase and hence the possibility of trading would be more likely to arise.

Eligibility Summary

- 4.26 Four candidate eligibility criteria were identified by the WG and carried forward to the WGAA section: i) All REGO generation, ii) REGO generation excluding Proportionally Qualifying Plant, iii) Only Intermittent REGO generation (excluding Proportionally Qualifying Plant), and iv) Low Carbon generation (excluding Proportionally Qualifying Plant).

DTEC ConnectionApplications Process

- 4.27 The WG agreed that the applications process for DTEC would be a normal 'box-ticking' part of an application for a connection. In order to complete the process a number of conditions would have to be fulfilled by the generator. These conditions would be specified in the CUSC Bilateral Connection Agreement (BCA). WG members agreed with the National Grid preference that the obligation would be placed on the generator/developer under the CUSC BCA to be self-certifying, noting that breach of the obligation would lead ultimately to DTEC being removed. This was agreed to be an appropriate incentive.

Schedule of Work

- 4.28 WG members noted that the current CUSC arrangements involving clustering with an opportunity for volunteering into an arrangement similar to that being considered by CAP 131. They therefore discussed what would be in the schedule of works and what would carry final sums liability (FSL) for DTEC generators in such a way that it would deal with the current circumstances but hopefully be robust to an implementation of CAP 131 type arrangements (were they to be approved by the Authority).
- 4.29 CAP 148 holds out the prospect of early connection, however, it does not suggest that DTEC Generators should have an additional financial benefit during the construction process. Therefore WG members agreed that consistent with the thrust of the amendment proposal, the Construction Agreement would need to include both the Directly Consequential Works (DCW) and the wider works for the purpose of final sums liability. These liabilities would finish at the DTEC Charges Liability Date, subject to the power station having been commissioned. Members noted that DTEC Generators would benefit from knowledge of the progress of wider works, particularly where these wider works were expected to be completed within 3 years. Provision of such information between DTEC generator and National Grid would form a normal part of the regular contract management dialogue.

Local (DCW) and Wider Works

- 4.30 The definition of DCW separate from wider works is a cornerstone of the amendment proposal. WG members discussed how to define DCW in an unambiguous way. A top-down approach would be those works required to allow the connecting plant to export CEC under n-1 (<1320MW connecting plant) or n-2 (>1320MW connecting plant) conditions with minimum demand and disregarding any other non-eligible generation. ANNEX 6 - ILLUSTRATION OF LOCAL AND WIDER WORKS shows a very simple illustration of a hub being used to connect a variety of new generation (some DTEC and some TEC) to the existing Main Interconnected Transmission System (MITS). The illustration in ANNEX 6 - ILLUSTRATION OF LOCAL AND WIDER WORKS shows the final form of the hub and generators after all have been connected. In the illustration DTEC generator (A) signs a construction agreement before any of the other prospective generators and the generators are connected in the order A, E, B, C and D.

DTEC Generator A

- 4.31 When the DTEC generator (A) is the only party connecting to a new remote substation which requires a new line to connect it to the remainder of the transmission system, the DCW needs to include the construction of the remote substation and the new line as a minimum. In the Illustration DTEC generator (A) is the first to sign a connection agreement. For this generator the DCW will be the i) the local connection assets at the power station A, ii) the connection from the power station to the hub (A-H), iii) the portion of the assets at the hub H necessary to export up to the CEC of the power station, and iv) the portion of the line and other assets from the hub to the MITS M

necessary to export up to the CEC of the power station. Clearly National Grid may decide to size the hub and the line H-M to accommodate other foreseen export requirements. However, Transmission Licensees do not build assets speculatively; they will only build when they have a firm signal that is supported through the regulatory regime. If further reinforcements of the MITS are required in order to accommodate the export from power station A, they would form part of the wider works.

DTEC Generator E

- 4.32 WG members noted that when the next DTEC generator (E) wished to connect, the DCW for E should be such that both generator A and E could export to the MITS simultaneously; otherwise the connection of E could cause A to be constrained down/off and hence undermine the purpose of the amendment proposal. Unless there is spare capacity arising from the unit size of the DCW for generator A, this will mean that DTEC generator E will require a DCW that will provide i) the local connection assets at the power station E, ii) the connection from the power station to the hub (E-H), iii) the portion of the assets at the hub necessary to export up to the CEC of the power station at the same time as A is exporting, and iv) the portion of the line and other assets from the hub to the MITS necessary to export up to the CEC of the power station E at the same time as A is exporting.

Back-Stop Dates and Delays

- 4.33 WG members discussed the implications of delays. Under the CAP148 amendment proposal an eligible generator will agree a Completion Date and a DTEC Charges Liability Date. They will normally be coincident. These dates will occur on completion of the conditions precedent. This is illustrated in the diagram below, in which it has initially been agreed that the DCW works will take 36+X months to complete scenario A below.

	Generator	NG
(A)	<u>(A) Routine CAP148</u> DTEC from (36+X)m DTEC Charge liability from (36+X)m	<u>(A) Routine CAP148</u> DCW completed by (36+X)m DTEC charges received from (36+X)m
(B)	<u>(B) Generator ModApps delay of +Ym</u> DTEC from (36+X+Y)m DTEC Charge liability from (36+X)m	<u>(B) Generator ModApps delay of +Ym</u> DCW completed by (36+X+Y)m DTEC charges received from (36+X)m
(C)	<u>(C) Delay of +Zm to NG DC Works</u> DTEC from (36+X+Z)m DTEC Charge liability from (36+X+Z)m	<u>(C) Delay of +Zm to NG DC Works</u> DCW completed by (36+X+Z)m DTEC charges received from (36+X+Z)m
	NB Delays to NG wider works have no affect on DTEC availability date or charges liability date	
	NB Original ConnAg specifies 36+Xm for NG DC works	

- 4.34 In this example if there is a delay that causes the generator/developer to seek a Modification Application Scenario B above, then the completion date will be pushed back to 36+X+Y months. However, the generator/developer's obligation for liability for DTEC Charges still begins after 36+X months. It should be noted that this date-firm obligation on the generator/developer is not explicit in the original amendment proposal; an alternative was considered by the WG in which delays to the generator/developer could precipitate the ability to move both the completion date and the DTEC Charges Liability Date backwards. However, the majority of the WG members including the proposer of CAP 148 believed that a date-certain for DTEC Charges Liability reflected an element of balance to the date-certain obligations placed on National Grid.
- 4.35 If there is a delay that affects completion of the Directly Consequential Works (DCW) by National Grid, shown as scenario C then both the completion and DTEC Charge liability date are pushed back to 36+X+Z months. Finally, if there is a delay that affects National Grid's programme for wider works, neither the completion, nor the DTEC Charge liability date is affected.
- 4.36 The consequence of the date-certain by which DTEC is available to the DTEC generator is that National Grid can have no protection under Force Majeure for wider works. If there is a delay affecting the User and the User does not make a Modification Application to defer the Completion Date National Grid may complete its works so far as possible, subject to Independent Engineer certification (noting that the

connection may not be completed). As a consequence the DTEC Charges Liability Date will occur and the User will become liable to commence payment of TNUoS (or whatever charge NG deems appropriate to make for DTEC, with the agreement of Ofgem, pursuant to the charging regime) up to the level of DTEC in the agreement (even if the connection is incomplete). However, the User would have to agree changes to the construction programme to deliver a revised completion date for the connection. If the generator/developer does not believe that any proposed delay to the DCW is justified, then it can begin the normal dispute process that is available under the CUSC. WG Members noted that this date-certain approach placed an additional financial risk on the DTEC generator in the event that they did not successfully manage their own construction and commissioning programme within the times prescribed by CAP148.

Delays and Risk Allocation

- 4.37 The WG discussed this allocation of risk and possible variants of the allocation. In the original amendment proposal National Grid has relief from external events that cause a delay to the DC Works, but no relief from external events causing delays to the wider works. One WG member suggested that National Grid should have the same relief as exists currently: relief from delays arising from external events causing delays to DCW and to wider works. The justification for this was that National Grid is already incentivised to build wider works and DCW as soon as possible because only once these assets are built can National Grid gain income from them. National Grid would neither cause nor exacerbate external delays, nor could it manage them, apart from the normal obligation to minimise their effect. Therefore, National Grid should not have to bear the risk of delays arising from external events. Some Members of the WG believed that this variant would be no different from the current TEC product. However, it should be noted that such external delays would increase the time period between the DTEC generator having access and the date on which wider works are completed and hence may exacerbate constraints, the costs of which are ultimately borne by generators and suppliers and hence the end customer.
- 4.38 A further variant of risk allocation examined by the WG was planning risk. A WG member proposed that National Grid should have no relief for external events arising from planning issues such as planning inquiry delays and leading to delays in construction of the wider works. However, they would have relief for other Force Majeure type events such as flood, famine, war and terrorism, etc.

Risk Allocation Summary

- 4.39 In summary WG members agreed that three candidate risk allocation criteria should be carried forward to the WGAA section: i) National Grid has no relief from external delays to the wider works, ii) National Grid has no relief from external delays to the wider works arising solely from obtaining planning permissions, and iii) National Grid has the current CUSC relief from external delays to wider works.

First Availability

- 4.40 The eligible generator will gain access to DTEC via signing either a Bilateral Connection Agreement (BCA) if it is transmission connected or a BEGA if it is distribution connected. (Generators with BELLAs are not directly affected by DTEC, just as they do not currently have TEC). Under the original proposal the eligible Generator will have DTEC from the earlier of:
- (1) the date by which National Grid can deliver Transmission Entry Capacity (“TEC”); or
 - (2) three years after the later of:
 - 3.1 (i) the date on which the generator obtains its project planning consents; or
 - (ii) the date on which it accepts a Connection Offer from National Grid;
- subject in both cases (1) and (2) to a local connection having been consented and commissioned: such date being the “DTEC Completion Date”.
- 4.41 The proposer of CAP 148 clarified that although not stated explicitly in the original amendment proposal, an additional condition precedent to the receipt of DTEC is the commissioning of the generating plant itself.
- 4.42 The CUSC agreement provides for access in the future, conditional on completion of specified work. The access allows a User to export power up to a specified MW figure. The specified MW figure is the MW given by TEC (or DTEC if CAP 148 is implemented) in the BCA. Therefore the access product (TEC or DTEC) is available to Users when the specified works are complete and any other conditions precedent are satisfied or waived; before this point the User has no access (i.e. it does **not** mean the user has access at TEC or DTEC of 0).

Implementation & Existing Applications

- 4.43 Those applicants in the current connection queue already have signed connection agreements that promise them TEC. In order for this amendment proposal to apply to them, it must be possible to change these agreements prior to commissioning. The construction agreement and the BCA (clauses 15 and 10 respectively on standard form) provide National Grid with the right amend the contents of the CONSAG or BCA respectively following approval of an amendment by Ofgem.
- 4.44 Therefore the amendment must include a provision for National Grid to amend the CONSAG or BCA of those eligible renewable generators who have not yet been connected so that they enjoy the benefits of DTEC. The cut-off date would be the Completion Date as defined in the Construction Agreement; if it occurred after the CAP 148 Implementation Date; eligible generators would receive DTEC; if it occurred before the CAP148 Implementation Date eligible and non-eligible generators would receive TEC. As DTEC is mandatory for all eligible generators, the change would be automatic. However, a

process will be required to enable eligible generators to indicate their eligibility for DTEC.

- 4.45 WG members envisaged that on implementation of CAP148, National Grid would contact all generators to confirm eligibility and status, then to conform all existing eligible but unfinished BCAs to DTEC and all existing non-eligible and unfinished BCAs would remain with TEC. For those DTEC generators with planning permission, the completion date would be set; for those without, the completion date would be indeterminate. As generator developers came forward with planning permission, the completion date would be agreed in their BCA.

Lead Time Variants

- 4.46 The original proposal has a period of 36 months after grant of planning approval for a project before the connection date occurs (unless TEC can be provided earlier). The rationale for choosing this period was that it matched the implementation period for planning consents in Scotland. In order to hold consents, parties must commence substantial construction works within 36 months. Some WG members considered this time period to be too short for National Grid to build infrastructure and suggested a WG alternative amendment candidate of a longer fixed duration period of 48 months in line with the discussions of CAP 131. The WG agreed to carry forward these two lead time candidates (the original amendment proposal of 36 months or the variant of 48 months) to the WGAA section.

DTEC Operation

Constraint Management:

- 4.47 The proposer envisaged that CAP 148 would deal with the situation in which connection of new eligible plant before the completion of wider works would lead to local, easily identifiable constraints that would apply until the wider reinforcement works were completed, at which point the transmission system would become unconstrained. However, constraints are by their nature impermanent and the location of constraint boundaries will change in response to a variety of factors. Constraints could in principle affect only DTEC generators, only TEC generators, or a mix of DTEC and TEC generators. The constraint management system needs to deal with all three scenarios.
- 4.48 The amendment proposal does not propose any change to the current constraint management arrangements when only TEC generators are affected by the constraint. It should be noted that although CAP148 expects TEC generators to be constrained down/off before DTEC generators, in the event of constraints, National Grid have a licence obligation with regard to Security of System and so with due regard for System Security, balancing actions may need to be taken on plant with DTEC prior to all other feasible balancing actions having been exhausted.

Constraint Identification

- 4.49 The proposer's expectation of how constraints arising from CAP 148 would be dealt with is illustrated simplistically in ANNEX 6 - ILLUSTRATION OF LOCAL AND WIDER WORKS. As a result of the connection of the DTEC generators (A), (B) and (E) prior to the completion of wider infrastructural reinforcement, a constraint would arise between the hub (H) and the MITS (M) requiring National Grid to constrain down/off TEC generators (C) and (D), prior to constraining down DTEC generators (A), (B), & (E). Generators (C) and (D) would receive an Interruption Payment to cover their 'associated losses'. Also, in the event that (A), (B), or (E) was constrained they would receive Interruption Payments. (This is further illustrated in ANNEX 7 - CONSTRAINTS IDENTIFICATION AND INTERACTION).
- 4.50 This type of constraint was anticipated to be identifiable and distinct from other constraints on the system and likely to be temporary until the wider infrastructural reinforcement is completed. (The proposer noted that National Grid, in applying the SQSS, might decide under certain circumstances not to undertake wider infrastructural reinforcement as the more cost-effective alternative was for the market to bear the constraint costs, rather than the higher TNUoS charges arising from additional infrastructural assets.) In discussion the WG considered that it might be possible, in certain circumstances, to identify a situation as simple and clear-cut as that portrayed in annexes 5 and 6. However, in practice less localised constraints would arise and their cause was likely to be more ambiguous than anticipated in the simple example. In this more usual example (see ANNEX 7), preferential despatch would have to be applicable to all TEC and DTEC generators. For the avoidance of doubt, any generator that was constrained on/up in the unconstrained or constrained part of the system would receive its BM Offer value.

Choice of Constrained Plant

- 4.51 The amendment proposal is clear that in the event of a constraint there will be a hierarchy of plant to be constrained down/off: TEC generators will be constrained first, followed by DTEC generators. There will also be Proportionally Qualifying Plant TEC/DTEC individual generating stations. WG members discussed where they would be placed in the hierarchy for constraint. A pragmatic approach was to place them in a position between TEC generators and DTEC generators. WG members recognised that this would tend to over-value them relative to all TEC generators and under-value them relative to all DTEC generators. It would also raise the gaming opportunity for some conventional generators to apply for a nominal (say 1MW) of DTEC for a trivial amount of co-fired energy crop fuel. However, this approach would at least have the over-riding value of relative simplicity for National Grid as constraint manager. Also, it should be noted that in managing constraints, National Grid may need to constrain DTEC generation before exhaustion of all other TEC or Proportionally Qualifying Plant options for reasons of system security, for example:

Constraint management approach - Long-Term:

4.51.1 WG members noted that in the management of constraints National Grid takes actions over a number of timescales ranging from up to a year ahead to operational timescales. Where National Grid has prior knowledge of a long/medium term constraint, their first option is to negotiate with all the affected generators with a view to agreeing a commercial arrangement that will minimize the overall cost of the constraint to the system. Similarly, in the shorter term National Grid may seek to deal with impending constraints ahead of real time via other arrangements. National Grid would have knowledge of likely constraint costs in negotiating these commercial services agreements. Depending on the nature and duration of the constraint National Grid would seek to achieve differing mixes of short and long-term constraint management tools. All of this exists now and would continue to be available to National Grid under CAP 148.

Constraint management approach - Operational Timescales:

4.51.2 WG Members discussed the provision of a new constraint management system and the proposer of CAP 148 explained that part of their reasoning for the new system was the interaction of the ROC system and the current constraint management approach. If a TEC or DTEC renewable generator were to be constrained off they would not receive ROCs (ROCs are determined on the basis of the metered output) and hence their marginal cost of being constrained down would include the cost of the ROC not received.

4.52 The proposer wished to avoid TEC generators in known constraint areas using locational power to bid at levels which would result in them receiving a loss-of-profit that included the ROC cost. Therefore rather than using BM Bids and Offers, as now, there would be Interruption Payments for constraints leading to the need to constrain down/off generation (TEC or DTEC) where there is either DTEC only plant affected or a mix of TEC and DTEC plant. These Interruption Payments would be administered payments.

4.53 The following outline scenarios deals with the three types of export constraint. It should be noted that in all cases, the price paid to the generators constrained on/up is their BM Offer value. The rationale for this is that the constrained on/up generator will be in the majority part of the market where locational market power considerations will not apply.

4.53.1 DTEC Only Plant Affected: Where only DTEC plant is affected by the constraint, the choice of which plant is to be constrained down/off will be made by National Grid on the basis cost efficiency (as now) and taking into account the administered estimate of the associated losses of reduction of output for each eligible DTEC generator (Interruption Payment).

- 4.53.2 TEC Only Plant Affected: Where only TEC plant is affected by the constraint, the choice of which plant is to be constrained down/off will be made by National Grid on the basis of cost efficiency (as now) and taking into account the Bid prices submitted by the affected generators, exactly as now.
- 4.53.3 DTEC & TEC Plant Affected: Where a mix of plant is affected by the constraint, the choice of which plant is constrained down/off will be made by National Grid on the basis of cost efficiency (as now) and firstly choosing TEC generators in order of increasing Interruption Payment and then, once all the TEC generators were exhausted, any mixed TEC/DTEC generators and finally, the DTEC generators would be chosen in order of increasing Interruption Payment.

Constraint Payment arrangements

4.54 In the event of a constraint, the two differing types of payments: CAP 148 Interruption Payments and BM Bids & Offers would flow down different paths through the industry. TEC generators would need to have systems in place to deal with their being constrained and then receiving their Bid/Offer or receiving an Interruption Payment. In order to illustrate these payments and paths the WG constructed a number of scenarios and money-flow diagrams. (See ANNEX 8 - CONSTRAINT MANAGEMENT AND MONEY FLOW)

- 1) Scenario 1 Shows a Long Market under the current baseline
- 2) Scenario 2_Shows a long market with a 20MWh constraint under the current baseline.
- 3) Scenario 3 shows the same as scenario 2, but with the constraint requiring TEC generators to be constrained down/off. For the purposes of this scenario it is assumed that the Interruption Payment for the affected TEC generators is the same as their Bid values: £24/MWh. The blue arrows indicate those cash flows arising from Interruption Payments that must now flow through the TNUoS system.
- 4) Scenario 4 shows a long market in which there is an export constraint affecting a DTEC wind generator under the current baseline.
- 5) Scenario 5 shows the same as scenario 4. The constrained wind generator is a DTEC generator. Therefore the Interruption Payment includes the value of the ROC.

The sequence of events/payments would be:

- o ROC Eligible TEC generator (ROCETG) is constrained off at ROC-price reflective bid price - i.e. receives ROC payment through BM

- No ROCs are produced so Supplier will be short and liable for ROC buyout price
- ROCETG needs to compensate Supplier for lost ROCs (presumably at the ROC market price less any shared amount between ROCETG Gen and Supplier)
- No payment is required from Settlements to the Supplier for lost ROCs.

4.55 The ROC and constrained off (disregarding energy payments) money flows would be:

- 3.2 Assumptions:
- i) RO buyout price is £33/MWh
 - ii) ROC market price is £43/MWh
 - iii) ROCETG Gen and Supplier share ROC Benefit 50:50 i.e. £5/MWh each

Now:	Receives	Pays	"Profit"
	£/MWh	£/MWh	£/MWh
ROCETG	38 (in contract)	0	38
Supplier	43 (through ROC stir back)	38 (in contract)	5
Under CAP 148			
ROCETG	38 (through –ve bid) (plus £38 from contract with Supplier)	38 (back to Supplier)	38
Supplier	38 (from ROCETG)	33 (RO obligation)*	5
* No ROC 'recycle' payment			

In summary both parties end up in the same position as now through the –ve bid and bilateral contract.

Associated Losses

Principle of 'Associated Losses'

4.56 CAP 148 anticipates that the administered Interruption Payment, payable to those generators constrained down in constraints involving TEC and DTEC, or just DTEC generators, would cover 'associated losses'.

4.57 Some WG Members expressed their strong aversion to administered payments (in a competitive market) being used during the management of constraints, which, in their view, should be managed in as nearly a market-based way as possible. The existence of administered payments would always be a second-best to the provision of BM Bid (& Offer) prices by generators that were their own best estimate of their losses. They also believed that the complexity associated with the co-existence of administered payments and BM Bids (& Offers) would increase the complexity and systems required by National Grid to carry

out its GBSO role, without any benefit. Finally, they were concerned that the imposition of any administered price would have competition law implications for the TEC generators who would be forced to accept CAP 148 Interruption Payments (which may well not cover all their actual costs/losses).

- 4.58 Other members of the WG responded that in a constrained part of the market, individual participants may have locational market power and may provide a BM Bid price reflecting that locational market power and so gain inappropriate commercial advantage. They were not confident that the normal operation of the market would always lead to a cost-efficient outcome. They noted that the likely outcome of implementing CAP148 would be to increase the volume, duration and frequency of constraints and hence increase the risk that more participants could game the locational power arising from the constraint more frequently. They were concerned that self-regulation may fail under such increased pressure.
- 4.59 It was noted that the market was subject to continuing surveillance by the Regulator and that the remedies available to the Regulator for anti-competitive behaviour could be up to 10% of global turnover.

Elements of 'Associated Losses'

- 4.60 WG members discussed the elements of such an administered Interruption Payment. The administered Interruption Payment is intended to hold the affected generator harmless against their net lost income, whilst at the same time avoiding opportunities for gaming by conventional plant with regard to the value of ROCs. For differing types of generation technology, the elements of associated losses can vary tremendously. Below the WG discussed a few illustrative examples.

Thermal plant

- 4.61 The bid price of thermal plant will generally reflect the avoided fuel costs as the generator is earning its contract price and effectively rebating the cost of the fuel not burned. The bid price may be less than this due to fuel handling and other associated charges. If the generator has a take-or-pay fuel contract then the bid price could be zero or even negative. If a generator had a technical restriction on operation with its plant it could put in an extremely negative bid.

Nuclear plant

- 4.62 Constraining Nuclear Plant down or off could result in a period of forced unavailability outside of the accepted bid and so the associated imbalance costs at SBP may be reflected in the bid price which could be highly negative.

Renewable plant

- 4.63 For renewable plant the contract with the supplier will incorporate an energy price (this would include a value for the intermittent energy produced and any other costs incurred by the generator i.e. financing costs, TNUoS, losses, operation and maintenance) and a "green" price

(this would be the £38/MWh listed above i.e. the RO buyout price plus shared ROC value). If the ROC-eligible generator was constrained down/off then its bid price should only reflect the green price element as the other (energy price) costs should be covered in the contract price received from the supplier.

CHP plant

- 4.64 For CHP plant with a significant heat load the decision to dispatch-off plant that is used to provide steam for processors (paper, chemicals refinery etc) in favour of renewable plant will have a number of consequences:
- The process will either have to stop or auxiliary boilers will have to be run at huge inefficiencies. The auxiliary boilers have emissions limits and this may force the process to be shut down if these are exceeded.
 - The cost of interrupting the process can be high with damage to catalysts running in to millions of pounds as well as lost production.
 - The return of the plant may take hours to achieve as steam conditions for the process will need to be established prior to generation being available.
- 4.65 A WG member suggested that the calculation of associated loss would need to include consequential loss and not just the loss due to failure to supply generation. His preferred approach would therefore be to use the current BM Bid price mechanism so that plant can indicate its costs to National Grid prior to it being despatched off.
- 4.66 A further issue with defining the elements of associated losses was the frequency and duration of the constraints. If CAP 148 led to long duration and frequent constraints, albeit until the wider reinforcement is built, the affected generators will be at risk of not recovering their ongoing fixed costs.
- 4.67 The WG discussed the merits of differing approaches to defining the elements of associated losses and hence the Interruption Payment. The majority (but not all) of WG members believed that using BM Bid Prices (i.e. no administered Interruption Payment) was superior to any administered approach. It allowed for the variety of technologies commercial positions as identified above without undermining competition.
- 4.68 The other extreme would be to establish a claims process with an open-book accounting approach under the administration of the CUSC Panel. This highly administered approach would have the risk of undermining the operation of the competitive electricity market.
- 4.69 A further approach considered by the WG as a second best administered approach consistent with the principle of Interruption Payments, but without the complex administrative arrangements otherwise required would be to use the market price for the relevant

Settlement Period(s). This is a public domain datum with safeguards to avoid any gaming. For affected generators that are ROC producing, the Interruption Price would be the market price plus ROC value. This approach would be similar to that adopted for unplanned outage under CAP48. However, this would only represent a recent market price for electricity, not the intention of the proposer of CAP 148 to hold the affected generator harmless. CHP and Nuclear plant, as illustrated above, would be particularly affected by this approach.

- 4.70 In summary the WG could identify an administratively complex method that would deliver a more accurate Interruption Payments after the event and a less administratively complex method that would be less accurate and more arbitrary.
- 4.71 The majority of the WG remained concerned that either of these two methods would have unpredictable and damaging effects on the operation of the competitive electricity market. The remainder of the WG remained concerned that the administrative approach would have to be very complex in order to be accurate and hence unlikely to be easily practicable.
- 4.72 For these reasons the WG agreed not to pursue Interruption Payments and Associated Losses as part of the candidates in the WGAA section. Nevertheless, the WG did recognise that a reliance on the BM Bids and Offers in a post CAP 148 environment would place self regulation and the regulatory oversight function under greater pressure.

Impact on Cash-out Prices

- 4.73 In the event of a constraint, it is usually the case that the volumes of constrained off and constrained on plant are 'tagged out' under the BM so that there is no net impact on cash-out price. However, there can be a case where the price can impact cash-out price. Under the current circumstances, where the system as a whole is long and the constrained-down plant has a Bid (which may be negative) accepted, that bid will influence the cash-out price. Under the CAP148 arrangements, the WG agreed that the volumes of TEC or DTEC generation that was constrained should be tagged out as now. If the same approach is applied to the Interruption Payment as to Bids/Offer, then the Interruption Payment will contribute to the cash-out price. This potentially exacerbates this existing problem by mixing competitive market and administered prices in the inputs into cash-out price when the whole system is long.

Impact on Constraint Costs – Longer Term

- 4.74 WG members tried to develop a rough estimate of the impact of implementation of CAP 148 on constraint costs. As with any such estimate, it is almost impossible to be clear about the impact of a change on participants' behaviour later. Also, the WG did not have the wherewithal to try to ascertain the impact on each of the connectees currently in the queue and those already connected. Therefore the estimate contains a number of 'heroic assumptions'. Nevertheless, the

connection queue data is in the public domain and other parties can use the same data to try the impact of their favoured assumptions.

- 4.75 In summary, the WG took the current connection queue till 2016 and assumed that varying percentages of the generators in the queue with connection dates beyond 2010 (25%, 50%, and 100%) all had their connection dates brought forward by three years. At the same time the wider works required for the queue were still being built by National Grid, albeit at the rate consistent with the current queue timetable. Then by making assumptions for the cost of each constrained MWh and the percentage of time each boundary in the transmission system was constrained, the WG was able to come up with a rough range of constraint costs arising, year by year.
- 4.76 The basis of calculation is set out in ANNEX 9 - ILLUSTRATIVE CALCULATIONS OF IMPACT OF CAP 148 ON CONSTRAINT COSTS. If 25% of the current projects are advanced then the minimum additional constraint cost between 2011 and 2019 is approximately £135m; this rises to £542m if 100% of the projects are advanced. This cost is over and above ongoing constraint costs arising from the pre-CAP 148 situation and constraints associated with the outages needed to reinforce the wider transmission system. These numbers have been derived using an assumption that all projects currently in the queue can potentially proceed to be built and hence the percentages mentioned relate to the percentage of the total that are accelerated.
- 4.77 The WG were satisfied that to obtain a more accurate set of figures would require access to information that they could only guess. A WG member asked about the price track for 'normal' constraints over this period. National Grid currently have a annual System operator Incentive Scheme and hence produce a public domain estimate of constraint costs up to a year in advance, not further.

Longer Term System Issues

Planning assumptions TEC & DTEC

- 4.78 Transmission Licensees currently undertake the planning and scheduling of both wider and local works across the whole system on the basis of one long-term access product: TEC. The introduction of another superior product (DTEC) will provide eligible renewable generators with access to the GB Transmission System, notwithstanding that wider works which would have been required for the equivalent TEC generator had not been completed.
- 4.79 Transmission Licensees may have to decide between preferentially facilitating the Directly Consequential Works (DCW) for DTEC generators or wider works and be confident they have the regulatory framework that allows them to justify such an action. However explicit prioritisation of asset build would be a transmission licence issue not covered in this amendment proposal. This runs the risk of producing a

sub-optimal, longer and/or more costly overall connection process for TEC generation in the “queue” due to the less efficient integration of local and wider works compared to the status quo.

Impact on Security of Supply

- 4.80 Post implementation of CAP 148, Transmission Licensees would, as now, manage the longer-term investment in infrastructure so as to deliver local and wider works as quickly and cost efficiently as possible. Implicit in CAP 148 is the expectation that the network will be more constrained more frequently. Whilst this is likely to lead to higher constraint costs until the wider works are complete (not least because of the increasingly unpredictable running pattern of TEC generation), it is not expected that operational security of supply will be compromised because National Grid retains the over-riding power to take actions to maintain security of supply. However, as noted above TEC generators are likely to find that their running patterns may become increasingly uncertain and erratic as constraints dictate that they are “constrained down/off” in order to accommodate DTEC generators.

Maintenance of the Reliability and Safety of the Grid

- 4.81 The WG noted that Article 7 of the EU Renewables Directive 2001/77 refers to ‘without prejudice to the maintenance of the reliability and safety of the grid’. The WG agreed that it would be for National Grid to advise Ofgem if, in their opinion, either the original amendment proposal or any Working Group Alternative Amendments or any Consultation Alternative Amendments would be prejudicial to ‘maintenance of the reliability and safety of the grid’.

Impact on SQSS

- 4.82 WG members noted that CAP 148 proposes no changes to SQSS. As now, National Grid would form an assessment of which assets to build (or not build if the costs of constraints are economically preferable) and then build them. What could change is the frequency with which National Grid have to approach Ofgem for a derogation for the period between the date upon which the DTEC generator receives its DTEC (maximum 3 years from connection agreement, subject to some conditions precedent outlined above) and the date when the wider system reinforcements are in place to bring the whole system back into compliance with the SQSS. These are currently rare events.
- 4.83 National Grid representatives at the WG indicated National Grid’s unease at the implication of CAP 148, that National Grid would begin a connection agreement knowing that it could be in breach of its licence if derogation was not automatically granted. This issue might be resolved by a separate agreement between National Grid and Ofgem, or more likely by a change to the SQSS so as to deal with this situation for DTEC generators. Such changes would be consequential changes to other documents, if this amendment were to be implemented.

Connection Queue Management

- 4.84 Currently, the Transmission Licensees undertake their system planning and reinforcement on the basis of a sole access product – TEC. If CAP 148 were introduced there exists the possibility that the revised system could become unduly discriminatory against those prospective new users seeking TEC, noting that some new connectees only have the option to seek TEC (rather than DTEC).
- 4.85 The process may delay the connection of new or expanded TEC generation, due to the allocation of resources onto the DTEC local connection works, in preference to “TEC” generator local connection works. It could also delay the connection of TEC generation further, if there is a consequential delay in the progressing wider system reinforcement which is required to allow TEC generation to connect (finite resources/outages etc., will have been reallocated to local DTEC connection work).
- 4.86 Whilst there is currently no explicit obligation to advance DCW the WG understood that once DCW and wider works became separate, advancement of DCW may occur subject to other licence obligations (and possible changes in licence obligations (see section 4.78 above)). There is also the possibility that TEC generation might have to wait not only for those wider infrastructure works for which it is “responsible”, but also the wider works which have been triggered by DTEC generators due to the system being rendered non-SQSS compliant, so no more TEC until it is compliant. Finally, the discrimination in favour of the DTEC generator will mean that at all points in the connection process for a TEC generator it is subjected to greater risk than at the moment that its programme will be shifted because of DTEC later comers.

Risk Perceptions and Realities for all generators

- 4.87 If CAP148 were to be implemented and successfully brought forward more renewable generation more quickly, there would be impacts on the risks faced by TEC generators. Running patterns for TEC generators are likely to become more uncertain and volatile pending the construction of wider reinforcements. The likely increase in constraint during this interim period, but more importantly the increase in uncertainty of when it might arise and for how long, will result in greater uncertainty for the users in creating cost-reflective BM Bids. Ultimately the effects of such uncertainties in costs are likely to be borne by the customer.
- 4.88 At present operational market access risk is small, as evidenced by the current annual costs of constraints compared with the value of energy traded per annum. If in a post-CAP 148 implementation market the operational access risk is enhanced and hence the costs of constraints increased, the point may be reached at which the continuing appropriateness of the current mutual self-insurance provided via the BM may need to be reviewed.

Balancing and ‘despatch’ IT and other Systems

- 4.89 National Grid noted that in order to run the constraint management system so as to allow for TEC and DTEC generators to be dealt with separately, there would be a need for new IT systems to support National Grid analysis and decision making. Operational planning would need to be expanded to allow differentiation between TEC and DTEC generators. There would need to be changes to the TNUoS calculation systems to allow for differences in treatment of TEC and DTEC as well as the TNUoS payment arrangements to allow the inclusion of Interruption Payments.

Discrimination and Wider Policy Issues

- 4.90 The WG agreed that the CAP148 proposals would introduce a degree of discrimination under the CUSC in favour of new (DTEC) renewable generation projects which would be offered different and more advantageous connection arrangements when compared with other TEC generation projects (i.e. existing conventional and renewable plus new conventional).
- 4.91 The key issue for the WG was whether this comprised “due” or “undue” discrimination. In the Ofgem/DTI (now BERR) letter to the CUSC Panel referenced earlier (see section 2.2) help is provided with the concept of ‘due discrimination’. ‘... *no discrimination arises where like situations are treated differently provided that the difference in treatment can be objectively justified.*’ A WG member noted that Ofgem had recently, in its discussion of matters of discrimination relating to the (UNC) Mod 116 Appeal to the Competition Commission, stated in its ‘Summary of Case’ at paragraph 11, that “the fact that two categories of persons are different in some respects cannot make it right to treat them differently in every respect. The question must always be whether the differences between them are sufficiently material to justify the particular difference in treatment”. Also in its Mod 116 Appeal Ofgem referred to the ‘Carson v Secretary of State’ case (2005) which indicated, at paragraph 61, that where there is a difference in treatment that the Court would need to determine “did the difference in treatment have an objective and reasonable justification: in other words, did it pursue a legitimate aim and did the differential treatment bear a reasonable relationship of proportionality to the aim sought to be achieved?”.
- 4.92 The WG member also noted that the ‘Gebhard v Milan Bar Council’ case (1995) indicated, at paragraph 37, that where “national measures [are] liable to hinder or make less attractive the exercise of fundamental freedoms guaranteed by the Treaty [they] must fulfil four conditions: they must be applied in a non-discriminatory manner; they must be justified by imperative requirements in the general interest; they must be suitable for securing the attainment of the objective which they pursue; and they must not go beyond what is necessary in order to attain it”.
- 4.93 Additionally the Ofgem/DTI (now BERR) letter of 17th April to the CUSC Panel went on to say ‘...in relation to the question of economic and efficient operation, we consider it would be possible to make an

argument that it is more economic and efficient for generators that do not emit carbon to have grid access than for carbon emitting generators to have access when you consider the environmental costs associated with higher carbon emissions. It is of course open to those carbon emitting generators to make an argument for no change on the basis that the EU ETS is designed to internalise the costs of carbon into their decision making. We believe that the CUSC process should facilitate this discussion and debate.’ Some WG members argued that the environmental costs avoided by the earlier and preferential connection of new renewable generation were sufficient that discrimination in favour of such DTEC generators could be justified on economic grounds, not just compliance with governmental policy goals. Others did not agree and argued that the combination of the Renewables Obligation, CCL and EU Emissions Trading Scheme are policy tools which have been implemented in the electricity market so as to bring the cost of carbon and the incentives for new renewable generation into the market. In their view the introduction of DTEC would therefore be undue discrimination. A consensus was not achieved amongst the WG as to whether or not implementation of CAP 148 would lead to ‘due discrimination’.

- 4.94 WG members discussed a number of EU Directives and governmental policies and the impact of CAP 148 on them, in terms of whether the impact would be due or undue discrimination. WG members raised arguments for each area either that the discrimination was due or undue. These are shown in the table below:

	Arguments advanced in WG Discussion	
	Pro Due discrimination	Pro Undue Discrimination
<u>EU Renewables Directive/ HMG Renewables Policy targets</u>	<p>Helps facilitate growth in renewable generation. Helps achieve CO₂ Policy goal</p> <p>WGAs do not discriminate operationally and therefore arguably do not discriminate against existing renewable plant.</p>	<p>Discriminates against existing renewable and new and existing conventional generation.</p> <p>Renewables Directive is in part permissive and mandatory only in part.⁴</p> <p>Reduced efficiency for constrained-off plant will reduce environmental gains of early connection</p>
<u>EU Markets Directive/ HMG</u>	Facilitates growth in connected capacity and	These changes are arguably overly

⁴ *EU Renewables Directive 2001/77. Article 7*

	Arguments advanced in WG Discussion	
	Pro Due discrimination	Pro Undue Discrimination
<u>Markets policy</u>	hence in competition and would achieve better alignment with overseas markets	discriminatory and hence anti-competitive, facilitating decline in competition
<u>EU CHP Directive</u>	Low C eligibility option WGAA would favour good quality CHP with low carbon intensity	CHP discriminated against under CAP 148 original and some WGAA's
<u>Security of Supply – Long Term</u>	Better energy technology mix achieved would enhance security of supply longer term	Increase in uncertainty for TEC generators will discourage investment and accelerate closure and would therefore reduce security of supply longer term.
<u>Security of Supply – Short Term</u>	Any additional constraint and other system management costs are outweighed by the environmental benefits	Balancing services management made much more difficult and complex
<u>Network Issues</u>	New renewables generation will use network more sparingly	
	Requirement for planning permission will make NG development more efficient	NG will face increased costs without means to improve performance
	WGAA's remove issues of lesser rights under constraint.	Both parties are paying TNUoS, but TEC receives lesser rights of access under constraint (CAP 148 original)

- 4.95 It was recognised by some WG members that the CAP 148 proposal could help to facilitate Government and EU targets for renewable generation (see for example Ch. 5, Para 5.3.75 of UK Govt Energy White Paper, May 2007, 'Meeting the Energy Challenge.') and help to meet wider UK Government and EU objectives in relation to reducing CO₂ emissions. However, it was noted that such considerations were not explicitly part of the CUSC applicable objectives. Other governmental energy policy goals such as security of supply and minimisation of costs of energy via the use of competitive markets are easier to trace to the CUSC applicable objectives and they are considered explicitly below in the context of the WGAA's. As with the

discussion of 'due discrimination', WG members proposed arguments in favour and against the furtherance of these policies via CAP 148 original or WGAAs.

5.0 ALTERNATIVE AMENDMENT

Working Group Alternatives

- 5.1 Following the assessment discussion summarised above, working group members considered possible Working Group Alternative Amendments (WGAAs). The discussion focussed on two areas: connection and operation.

Connection Alternatives

Definition of Eligible Generation

- 5.2 The WG considered the eligibility criteria at length and from their consideration four candidates (1-4) were further considered. Of the four 1) all REGOs and 2) Intermittent REGOs were considered but not supported. The supported candidates were: 3) Low carbon generation defined as (tonnes carbon emitted per MWh generated \leq 0.2) minus Proportionally Qualifying Plant and 4) All REGO generation minus Proportionally Qualifying Plant.

Option	Description	WG consideration
1	All REGOs: any generator including Proportionally Qualifying Plant	Not supported
2	Intermittent REGOs only minus Proportionally Qualifying Plant	Not supported
3	Low Carbon Generation minus Proportionally Qualifying Plant	Supported
4	REGOs minus Proportionally Qualifying Plant	Supported

Delays and Risk allocation: Risk Allocation for delays in Wider Works

- 5.3 Please note that under all three risk allocation options the DTEC Generator would automatically gain transmission system access after completion of the Directly Consequential Works (subject to the generator being commissioned). The differences in risk allocation are with regard to delays in the completion of the wider infrastructure reinforcement works.
- 5.4 Three candidates (A-C) were supported: A) delays affecting the Wider Works were treated as now; B) delays affecting the Wider Works were treated as now except those arising from planning for which there would be no relief for National Grid; and C) there would be no relief for National Grid for delays affecting Wider Works.

Option	Description	WG consideration
A	National Grid have all current external event delay relief (subject to lead time below)	Supported

B	National Grid have no relief for delays arising from obtaining Planning permissions for wider works (non DCW works)	Supported
C	National Grid have no relief for delays however arising	Supported

Lead times

- 5.5 The lead time is the earliest time the eligible generator can receive access to the transmission system, subject to completion of the Directly Consequential Works and the commissioning of the generator. It should be noted that in the event that the wider works, the Directly Consequential works and the generator commissioning could all be completed in less than the lead time, then the generator could receive access even earlier. Two candidates were supported: X) 36 months, the time proposed in CAP 148 original, and Y) 48 months arising from the discussions surrounding assessment of CAP 131.

Option	Description	WG consideration
X	48 months plus any additional time for DCW	Supported
Y	36 months plus any additional time for DCW	Supported

Operational Alternatives

No Special Constraint Management

- 5.6 Although the WG members as a whole decided to abandon the special arrangements for Interruption Payments, some did so because they believed it was deleterious to the competitive energy market and overly costly and complex with nugatory benefit if any, whilst others only accepted the complexity and cost argument.
- 5.7 WG members agreed to rely for all the Working Group Alternative Amendments on the current constraint management processes, noting that eligible renewable generators would routinely set BM Bid prices that would make them the least attractive to constrain down/off.
- 5.8 All WG members noted that the likely increase in frequency and duration of constraints under CAP 148 is likely to impose more of a regulatory burden for Ofgem's market oversight function.
- 5.9 WG members further noted that the CAP 148 original Interruption Payment scheme would have led to the additional constraint costs being recovered via the TNUoS route compared with the BSUoS route.
- 5.10 The TNUoS route allows constraint cost recovery to be smoothed over 12 months, subject to National Grid being able to pass through the full cost to users. The twelve-monthly cycle of TNUoS aligns more closely with domestic tariff cycles. The BSUoS route for constraint cost recovery associated with all the Working Group Alternative Arrangements is more rapid and therefore more volatile than TNUoS.

Nevertheless, the other administrative complexity of having to run both a TNUoS and BSUoS approach to CAP 148 constraints was agreed to be an overwhelming factor against it.

- 5.11 A further consequence of this choice was that, at least in principle, once the wider works are complete the DTEC generator could revert to TEC.

Candidates for WGAA

- 5.12 The candidate combinations are set out below:

Eligibility	1 All REGOs	2 Intermittent REGOs only	3 Low carbon Generation	4 All REGOs minus proportionally qualifying
Force Majeure Risk	A As now	B No relief for planning	C No Relief	
Lead Time	X 48 months	Y 36 months		

- 5.13 Therefore a combination would combine 3 parameters: (1,2,3,4) plus (A,B,C) plus (X,Y). From amongst the possible combinations 13 WG members (Chair did not vote) were asked to consider which of the original and WGAA's were better than the current CUSC baseline. All of the WG members could vote on each of these.

- 5.14 The combinations adopted as WGAA's by the WG were

- WGAA 1 (4CX)
- WGAA 2 (4BX)
- WGAA 3 (4CY)
- WGAA 4 (3BX)
- WGAA 5 (4AX)

Note that Eligibility options 1 and 2 were not supported.

- 5.15 Then, those WG members who had supported any of the original or the WGAA were asked to vote once more to determine which of the WGAA's or original was the preferred alternative. It should be noted that some (5) of the WG members believed that none of the WGAA's or the original was better than the current CUSC baseline. Therefore these members did not express a preference for a preferred alternative amongst the WGAA's and the original. The table below summarises the result of this voting:

	Compared to Current CUSC			Preferred alternative
	Better	Worse	Abstain	
Current Baseline	5			
WGAA 1 (4CX)	2	10	1	0
WGAA 2 (4BX)	6	7	0	6
WGAA 3 (4CY)	2	10	1	1
WGAA 4 (3BX)	2	10	1	1
WGAA 5 (4AX)	0	10	3	0
CAP 148 Original	2	11	0	0

- 5.16 As a result of the final voting by Working Group Members none of the WGAA's or the original CAP 148 had majority support from the WG Members compared with the current baseline.
- 5.17 A majority of WG members considered that some variant of the proposal was better than the original; WGAA 2 (Option 4BX) gained the most support from WG Members relative to the current baseline and the most votes in favour of it as the preferred alternative. However, in an individual assessment it was not voted as better than the current baseline.
- 5.18 In voting on the alternatives, WG members were aware that CAP 148 is premised on discrimination in favour of eligible renewable generation and against non-eligible generation technologies. They were in receipt of advice from Ofgem (and DTI⁵) to the CUSC Panel⁶ which made the point that 'due discrimination' under the CUSC applicable objectives may be permissible if objectively justified.
- 5.19 WG members were also aware of the difference between the basis on which they made a recommendation: the Applicable Objectives, and the basis on which Ofgem may make a decision: having regard additionally to its wider licence obligations. Some WG members who had voted against the WGAA's on the basis of consideration against the Applicable Objectives suggested that WGAA 5 and WGAA 4 (options 4AX and 3BX) might be supportable against the wider objectives.
- 5.20 In order to ensure clarity WGAA2 (option 4BX) is more fully laid out here. This WGAA combines the following features:
- 5.20.1 Eligibility would be determined by the core definition of REGO production minus any Proportionally Qualifying

⁵ Now BERR

⁶ The Ofgem/DTI letter in response is filed with the CAP147 documents on the National Grid web site:
<http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/currentamendmentsproposals/>

Plant (option 4). This is seen as consistent with the general governmental goal of advancing renewable generation whilst pragmatically allowing that inclusion of co-fired generation is unlikely to significantly advance these types of projects and would be very difficult to administer correctly.

5.20.2 National Grid would have full normal relief against external events delaying the Directly Consequential Works (DCW), but would have no relief against delays to the wider works arising from the planning process (option B). This allocates the planning delay risk from wider works to National Grid and thence through the rest of the market to the end customers. The rationale is that end customers (through government) can affect the wider planning risk.

5.20.3 The minimum period after which the DTEC generator must receive access is 48 months, subject to completion of the Directly Consequential Works (DCW) (option X). The rationale for this choice is that during the CAP 131 assessment it appeared to most that 48 months should be sufficient time for National Grid to build the necessary local and wider works to allow new generation to connect, subject to planning consents being obtained. New generators would potentially be able to commence construction work at the end of their three year planning validity period and would then have a year to construct – an appropriate time in the context of new wind generation which is the type of generation most likely to benefit from DTEC in the near term.

5.20.4 On completion of the wider reinforcement works the DTEC would revert to TEC.

5.20.5 There would be no special constraint management arrangements for DTEC generators and there would be no Interruption Payments for 'associated losses'; the normal constraint market-based approach (i.e. BM Bids and Offers) would apply.

Consultation Alternative

5.20 There were no Consultation Alternative Amendments raised.

6.0 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES

Proposed Amendment and working group alternatives

The Assessment against Applicable CUSC Objectives is summarised below.

- 6.1 The WG overwhelmingly believed that an Interruption Payment mechanism would be discriminatory, undermining the existing market and so frustrating competition. Furthermore the original would be extremely difficult to implement and manage operationally (if it could be done at all), thus it was not an efficient or a proportionate response to managing delays in the access queue. Therefore overall the original was assessed as not better meeting the relevant CUSC objectives (a) & (b).
- 6.2 A few WG members believed that practicalities aside the Original did better meet the principles of the CUSC objectives over the current baseline (as reflected in the WG vote), with the wider benefits outweighing any disadvantages against the CUSC objectives, and that there would be competition benefits and these justified different treatment for a particular generators. National Grid does not agree that, if indeed there were competition benefits, that that these would justify discrimination under the CUSC as the benefits would be provided by any form of new generation.
- 6.3 The original and WGAs fundamentally differ in that the original includes an Interruption Payment mechanism. The equivalent option to the Original (minus the Interruption Payment mechanism) from the WGAA candidate list would have been 1CY, this was discussed as a WGAA but not supported, not least due to the practicalities of managing plant with partial REGOs discussed in the evaluation.
- 6.4 **Efficient Discharge of Licence Obligations**
- 6.4.1 Efficient use of the network because of additional generation connected: Providing early connection would increase the number of parties able to access the transmission system. However providing firm rights to all of these parties significantly in excess of the capability of the transmission system would result in significant additional operational costs. Therefore whilst the transmission system was being used more, this would not necessarily be efficient. On the basis that the wider transmission works would largely be justified on grounds of economics, the assessment of efficient level of constraints exposure is already factored into the existing connection date. Therefore the likely additional cost incurred from providing early connection would not be efficient.
- 6.4.2 WGAs with option X, four years lead time, would limit exposure to constraints, however in the context of efficient operational of the

transmission system the additional cost would still be inefficient and thus not justified.

- 6.4.3 In the WG, members acknowledged that an impact arising from implementation of any of the WGAAAs would be to increase the volume of access used at any time. This would increase the volume efficiency of the use of the network. National Grid agrees in terms of volume alone, however consideration of costs imposed must also be taken into account when assessing the overall efficiency. Allowing greater volume use of the system does not alone justify release of firm access above the basic capability of the system.
- 6.4.4 National Grid agrees with the assessment of the WG that WGAAAs with the Low Carbon eligibility (option 3) are likely to result in even more new projects benefiting than REGOs (option 4) and hence have greater volume efficiency.
- 6.4.5 The WG members also noted that depending on the local state of infrastructure and other developments, the next connection may make better use of existing infrastructure or cause further constraints until further new infrastructure is built. Therefore, it would be difficult to know if any given project would enhance or decrease the cost efficiency of running the transmission system. National Grid agrees costs need to be considered, as discussed above, however the assessment of overall efficiency is considered in the planning process⁷ where the reduction in forecast operational costs are considered against the incremental cost of providing assets in the economic assessment.
- 6.4.6 National Grid agrees with the view of the WG that a result of connecting more generation to an un-reinforced system would be that constraints would be more frequent and of longer duration and hence the costs of constraints would increase.
- 6.4.7 National Grid is also concerned about the efficiency of the investment programme if it had to be rearranged to allow connection before the completion of wider works; if this were the possible outcome of implementing CAP 148, Transmission Licensees would need to consider the Licence implications with Ofgem. In developing the WGAAAs, the working group assumed that the additional time (48 months) provided for in option X, would increase National Grid's ability to deliver an investment programme and a lower constraint system, than option Y (36 months). However, this would inevitably delay the achievement of the primary goal of CAP 148 – additional eligible renewable generation connected sooner.

⁷ 'It is permissible to design to standards higher than those set out in paragraphs 4.4 to 4.12 provided the higher standards can be economically justified. Guidance on economic justification is given in Appendix E ' SQSS Paragraph 4.3. SQSS available at <http://www.nationalgrid.com/uk/Electricity/Codes/gbsqsscode/DocLibrary/>

- 6.4.8 The WG were divided as to the effect of risk allocation for delays: some believed that the greater risk allocation to National Grid would act as a further incentive to build transmission assets sooner, whilst others believed that the assumption that National Grid could continue with its scheduled investment programme, whilst possibly speeding up its programme to build assets related to DTEC connections in parallel, was unfounded and perhaps optimistic.
- 6.4.9 National Grid believes that the GBSO taking consent and force majeure risk for DTEC parties would be discriminatory and inefficient. Other connected parties have been required to manage such costs and issues. Other TEC generation would be required to wait for connection thus would be disadvantaged compared to DTEC generation. DTEC generation would be able to gain connection with no regard for consent issues for wider works, where these issues were extensive the short term gain to the generator of being connected early in a particular location could easily be outweighed by the wider costs imposed on transmission through accommodating the DTEC generation.
- 6.4.10 Overall, the essential issue in favour of implementing one of the WGAAAs is that it would allow more renewable generation to connect to the transmission system sooner, providing greater diversity in the sources of generation to the benefit of the government's environmental agenda. Some WG members believed that this would improve longer-term security of supply. Whilst clearly diversity overall can better facilitate security of supply this is not limited to renewable generation and it does not necessarily justify firm access, particular in the shorter term. Conventional generation connecting early can make a significantly larger contribution to security supply than the majority of DTEC generation that is expected to be intermittent and with limited predictability.
- 6.4.11 National Grid agrees with the qualifying argument expressed at the WG: that whilst all parties want to see more renewable generation, putting greater volumes onto an unready system, only to have to constrain greater volumes off again than at present, is inefficient and potentially a wasteful expense to consumers and the wider industry.
- 6.4.12 As proposed DTEC is mandatory for all eligible generation. National Grid believes that this may place additional risk on developers when the charges for the service are cost reflective. This may have a negative impact on the development of new renewable generation when this is the only access product practically available.

6.5 Facilitation of Competition

- 6.5.1 In support of the implementation of one of the WGAAAs, WG members recognised that more connected generation would result in more competition in the volume of generation and also in the variety of generation types. Additionally, for smaller Suppliers, members thought it reasonable to expect that the availability of more renewable

generation should make it easier and cheaper for them to fulfil their renewable supply obligations. This would enable them better to compete with larger players with their own renewable assets.

- 6.5.2 Furthermore, some WG members questioned whether the industry should be too concerned with the likely increase in constraint costs, noting that National Grid has a variety of both short-term and long-term means for minimizing the costs of constraints.
- 6.5.3 The working group also considered that additional generation appearing more quickly might upset the current commercial balance of renewable generation in which additional income arising from recycle payments enhances the commercial viability of renewable generation.
- 6.5.4 More generally, in opposition to implementation of one of the WGAAAs, National Grid and WG members expected that CAP 148 would lead to greater constraints and hence greater constraint costs. As the WGAAAs propose that the current system of constraint cost allocation via BSUoS continues, this would lead to those additional constraint costs being shared amongst all users of the system. At present, National Grid ensures that the system is able to accommodate new generation, meaning that the commercial opportunity available to a new generator when they get a connection is not provided for at the expense of other parties.
- 6.5.5 National Grid agrees with the views expressed at the WG that the competition created by connecting new entrants to the generation market sooner as proposed in the amendment, would be achieved through additional costs borne by the wider industry and consumers. Under National Grid's initial thoughts on charging this cross subsidisation would not occur, however National Grid is concerned that the combination of mandatory DTEC and a cost reflective short term charges could be counter productive to the wider objectives highlighted in the initial amendment proposal.
- 6.5.6 National Grid agrees that whilst in some periods when DTEC generators are running the marginal price in the market may be lower. However this effect needs to be addressed holistically and include consideration of the additional costs in all periods to accommodate the intermittency, whether this is through the market in over contracting to avoid imbalance exposure or management by National Grid. In addition the overall capacity credit created by the majority of expected DTEC generation (the ability for the market to retire older plant) is limited, although this older plant is likely to run less frequently. When this plant does run it will be required to recover fixed cost over a much smaller period and therefore likely to have a higher market and offer prices. This could lead to higher and more frequent peaks in energy prices, possibly balanced by smaller average reduction in energy prices (that is the reduction will not reflect scarcity as the increase does).

7.0 PROPOSED IMPLEMENTATION

- 7.1 Should the Authority direct the implementation of either the original or an alternative the National Grid proposes that CAP148 should be implemented 10 Business Days after an Authority decision. This is based on the assumption that any consequential changes to the Grid Code, SQSS and any other documents are completed before the first DTEC holder is physically connected. This is subject to National Grid to agreeing a progress for obtaining derogations from the current SQSS prior to the signing any DTEC bilateral agreements.
- 7.2 It is envisaged that the consequential changes could be progressed after implementation (application fees would need to be agreed prior to application, National Grid indicated these would default to a TEC application fee if no action was taken). In accordance with CUSC 8.19.3 (b) views on implementation were requested.
- 7.3 The provisions would not be implemented retrospectively. Existing eligible generators having a signed agreement but not connected at time of implementation would be permitted to switch from TEC to DTEC, with the new provisions being applied from the date they sign an amended connection agreement. All new applications for eligible generation from the implementation date would be under the new provisions.
- 7.4 This would mean that that the earliest a User could hold DTEC would be at a minimum of three years from the date of implementation. If the original was implemented and TEC could be provided within three years that a user could hold DTEC earlier. If WGAA was implemented and TEC was available prior to three years (i.e. the wider works were complete) the user would receive TEC in any event as under the alternatives TEC reverts to DTEC once the wider works have been completed. Under later scenario as the user is receiving effectively compliant TEC which they would have received in any event it is not envisaged early implementation of consequential changes would be present a problem (as they are not required under that scenario). However under the original operational systems would have had to been developed and implemented to deal with administered pricing.
- 7.5 No comment on the implementation proposal or timescales was made in the responses to the consultation.

8.0 IMPACT ON THE CUSC

- 8.1 The WG agreed that no drafting would be supplied for CAP 148 original. The text required to give effect to the WGAA 4BX is contained in ANNEX 2 - DRAFTING FOR WGAA 2 (4BX) to this report.
- 8.2 The WG agreed that no drafting would be supplied for the other WGAAAs, noting that such drafting could be created by amendment to the drafting created for Option 4BX.

- 8.3 On National Grid's industry information web site a drafting note was produced to assist the working group that summarises the assumptions used in the drafting⁸.
- 8.4 The drafting in Annex 2 is split in to a number of subsections:
- o Annex2.1: CUSC Section11 Glossary and definitions
 - o Annex2.2: Applications & offer exhibits to the CUSC
 - o Annex2.3: CUSC section 1 through 10
 - o Annex2.4: CUSC Schedule 2 Exhibit 1 (BCA)
 - o Annex2.5: CUSC Schedule 2 Exhibit 3 (Consag)
 - o Annex2.6: CUSC Schedule 2 Exhibit 2 (BEGA)

9.0 IMPACT ON CUSC PARTIES

Proposed Amendment

- 9.1 CAP148 has an impact upon most CUSC parties in a number of ways given its wide ranging nature of the proposal, many of which are not directly related to the CUSC.

Working Group Alternative Amendments

- 9.2 CAP148 Working Group Alternative Amendments will impact on most CUSC parties in a number of ways, many of which are directly related to the CUSC. The key difference between the alternatives and the original is that TEC parties will not be subject to an administered payment mechanism to facilitate DTEC access.

10.0 IMPACT ON INDUSTRY DOCUMENTS

Impact on Core Industry Documents

Summary provided at the end of section

- 10.1 Grid Code: CAP 148 original will require amendment to the balancing codes of the Grid Code. The alternatives remove this requirement however there may need to be some future housekeeping changes e.g. facilitation of better margin information.
- 10.2 STC: CAP 148 original and WGAA's will impact the STC. National Grid would need to agree a process from converting existing agreements and assessing future applications with the TOs. This would include separately identifying works and providing explicit competition dates for wider and DCW. It may also need to address a planning prioritisation framework for DCW versus wider works.

⁸ http://www.nationalgrid.com/NR/rdonlyres/262A46AB-C3D1-4005-BAF4-49F154D06B1E/19800/LegalDraftingNotev4_CAP148_WGR.pdf

- 10.3 BSC: CAP148 original will impact the BSC, but the WGAA's would not. *National Grid note*: Cost reflective charging arrangements may have a consequential impact on the BSC. This would be further investigated alongside the future development of the charging methodologies should an alternative be approved.
- 10.4 SQSS: CAP 148 is likely to impact on the SQSS: A review will be required to establish the impact of DTEC on the SQSS and on system planning generally. The process for derogation application would need to be reviewed. The review will need to be progressed with the TOs. National Grid and the TOs would need to agree an interim process with the Authority for dealing with derogations for DTEC generation **prior** to any connection agreements being revised or signed.

Impact on other Industry Documents

(Summary provided at end of section)

- 10.5 The likely changes to other documents are described below. The WG discussed these changes and produced the summary table, also provided below.. Implementation of a WGAA significantly reduces the overall impact by removing the Interruption Payment mechanism. National Grid have indicated that as some of the changes are at least as significant as the CUSC amendment itself that it would only take forward detailed assessment of other codes following indication from Ofgem that a particular amendment was likely to be implemented.

Charging Statements

- 10.6 CAP 148 original or WGAA's will require changes to the charging methodologies. National Grid has indicated that on implementation it would review the charging methodologies. Under the current licence objectives it would expect to, as far as reasonably practical and with regard to the impact on competition, explicitly reflect the costs of providing early connection to the generator(s) using this service. This would require the development a methodology and a costing tool to identify constraints caused by users of DTEC. In assessing the cost of developing a new tool and system for charging National Grid would have regard for the overall benefit.

Impact on Licences

- 10.7 CAP 148 original or WGAA's will probably require changes to National Grid's Licence and to the Transmission Licensees' Licences. To facilitate charges on the basis of TNUoS as per the original proposal it is expected changes would be required to the licence provisions for charging. This would not be required for any of the WGAA's given the indication from National Grid that there would be a specific cost reflective charge if it was economic to do so. The impact on C17, transmission system security standard and quality of service, is noted above in 10.4. Additionally, CAP 148 or WGAA's are likely to require review to establish a regulatory framework for the 'due discrimination' arising from CAP 148 original or WGAA's.

Balancing Principles Statement & Procurement Guidelines

- 10.8 CAP 148 original will require changes to these documents to allow for the administered Interruption Payments and changes to the hierarchy of constraint management for TEC and DTEC generators.

DCUSC & Distribution Code

- 10.9 Changes may be required to both the DCUSC and Distribution Code for CAP 148 original or WGAAAs so as to recognise difference between TEC and DTEC generators when embedded.

Summary table produced by the WG:

Balancing Principles Statement, BPS	Necessary for CAP 148 original but not WGAAAs
	Changes to indicate the 'must run' nature of DTEC generators identified in CAP148
	Clarification of the circumstances and when National Grid would use market based services or the administered services This might better placed in a separate licence document.
Procurement Guidelines, PGs	Necessary for CAP 148 original but not WGAAAs
	National Grid to consider if the use of market based tools for the provision of services from renewables was appropriate
	Additional services may be required that deal with providing services explicitly in the context of DTEC constraint.
	Some changes required to the Balancing Services Adjustment Data, following on from PGS
Grid Code, GC	Necessary for CAP 148 original but not WGAAAs
	Number of new obligations on the National Grid or the DTEC generator and exemptions from existing obligations Focusing on Balancing Codes
	Mixed holding will require changes for clarity
	Form of and procedure for accepting administered bids to underpin CUSC mechanism
	Possible changes to frequency control services Balancing Code 3
	Any changes to despatch systems EDL Interface specification Data Validation Consistency Defaulting Rules
BSC	Necessary for CAP 148 original but not WGAAAs
	Depends on how DTEC interacts with BSC
Charging Methodology	Changes probably required with WGAAAs (or original)

Balancing Principles Statement, BPS	Necessary for CAP 148 original but not WGAAs
	Method for charging late connectees
	Possible differential charging between TEC & DTEC
SQSS	Changes probably required with WGAAs (or original)
	Possible change to avoid multiple derogations
STC	Changes probably required with WGAAs (or original)
	Identification of DCW
	Planning prioritisation framework for DCW versus wider works
Transmission licences	Changes probably required with WGAAs (or original)
	Aligning the incentives for National Grid and the TOs with the DTEC principle
	Comparison of costs against due discrimination
	Additional cash flow requirements
DCUSC	Changes probably required with WGAAs (or original)
	Amendments to recognise difference between TEC and DTEC generators when embedded
Distribution Code	Changes probably required with WGAAs (or original)
	Amendments to recognise difference between TEC and DTEC generators when embedded

11.0 IMPACT ON INDUSTRY COMPUTER SYSTEMS OR PROCESSES

- 11.1 CAP148 has an impact upon a number of Industry computer systems. The Alternative Amendments partially limits the extent of the impact by removing the need to implement a new system for establishing and administering Interruption Payments.
- 11.2 The consequential changes envisaged, particularly in the areas of charging (under National Grid's interpretation of the existing licence conditions), are likely to be at least as significant as the direct impacts on system to support CUSC changes. The extent of these changes would be subject to discussion under different governance arrangements. As a minimum National Grid would expect to implement a new access settlement mechanism for DTEC and along with a new methodology and possibly complex systems for determining real time pricing.
- 11.3 As indicated in the implementation section above, given the very wide ranging nature of the changes detailed scoping has yet to be performed. Scoping and implementation of IS changes would be undertaken following direction from Ofgem in order to avoid significant inefficient expense.

12.0 VIEWS AND REPRESENTATIONS

- 12.1 This Section contains a summary of the views and representations made by consultees during the consultation period in respect of the Proposed Amendment and the Alternative Amendment.

Views of Panel Members

- 12.2 *insert any additional views made by the panel at November 2007 Panel*

View of Core Industry Document Owners

- 12.3 Given the overall discussion on the original proposal discussion was not taken forward with Elexon on the impact on the detailed BSC. Working group members familiar with the BSC system and documents provided the input in this report. More detailed analysis would be taken forward if Ofgem directs the original or an alternative to be implemented.
- 12.4 As the party responsible for the other Core industry documents National Grid has indicated the consequences for each in this report. For particular note is the impact on the SQSS and the charging methodologies.
- 12.5 National Grid believes implementation of DTEC will require a review of a number of areas within the SQSS. In particular the connection of parties prior to wider works being completed and how the resulting additional costs are dealt with. Prior to this review being completed and National Grid entering into any bilateral agreements for DTEC a process for derogation from the current SQSS would need to have been agreed with Ofgem.
- 12.6 As indicated previously in this report National Grid does not believe that the suggested approach of charging in the original amendment proposal is consistent with the transmission licence objectives for charging. Therefore National Grid would be required to take forward industry consultation on appropriate charging armaments. One particular concern is that CAP148 original and alternatives are mandatory and that this could negatively interact with a more cost reflective charging approach. These points are covered in the industry note that National Grid provided along with the consultation⁹.

⁹ http://www.nationalgrid.com/NR/rdonlyres/1D5ACF49-FEB3-4759-A0CC-8082A88126FD/20357/CAP148Charging_OpenLetter.pdf

Working Group

- 12.7 The working group recommended to the amendments panel that the original amendment should proceed to consultation along with including the WGAA identified by the WG.
- 12.8 In the final voting by Working Group Members neither the original nor any of the WGAA's were voted as better than the current base line when assessed against the applicable CUSC objectives. Whilst WGAA 4BX was the most supported alternative, it was not voted as better meeting the applicable CUSC objectives than the current baseline (the chair did not vote). The voting is summarised below (a description of the WGAA's is provided in 5.12) :

	Compared to Current CUSC			Preferred alternative
	Better	Worse	Abstain	
4CX	2	10	1	0
4BX	6	7	0	6
4CY	2	10	1	1
3BX	2	10	1	1
4AX	0	10	3	0
CAP 148 Original	2	11	0	0

- 12.9 In voting on the alternatives, WG members were aware that CAP 148 is premised on discrimination in favour of eligible renewable generation and against non-eligible generation technologies. They were in receipt of advice from Ofgem (DTI) to the CUSC Panel¹⁰ which made the point that 'due discrimination' under the CUSC applicable objectives may be permissible if objectively justified.
- 12.10 WG members were also aware of the difference between the basis on which they made a recommendation: the Applicable Objectives, and the basis on which Ofgem may make a decision: having regard additionally to its wider licence obligations. Some WG members who had voted against the WGAA's on the basis of consideration against the CUSC Applicable Objectives suggested that options 4AX and 3BX might be supportable against the wider objectives.

Responses to Consultation

- 12.11 National Grid received 15 responses following the publication of the Consultation Report. Two of the responses, that of SSE and HIE, were received after the close of the consultation period. The following table

¹⁰ The Ofgem/DTI letter in response is filed with the CAP147 documents on the National Grid web site
<http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/currentamendmentsproposals/>

highlights the support and significant additional comments for each representation. Copies of the representations are attached as ANNEX 4 - REPRESENTATIONS RECEIVED DURING CONSULTATION.

12.12 A number of responses supported combinations of the alternative criteria that were not put forward, in particular the 4BY (3 year lead time; no relieve for delays on National Grid and eligibility for 100% REGOs). National Grid confirmed with these parties that they had not intended to submit a Consultation Alternative Amendment. The difference over the most supported alternative WGAA 2 (4BX) being a lead time of 3 years rather than 4 years.

Reference	Company	Summary of Comments
CAP148-CR-01	RWE	Does not support the original or alternative over the baseline. In the context of wider issues option 4AX (WGAA5) may represent an appropriate balance.
CAP148-CR-02	Carron Energy ('Carron')	Does not support CAP148 due to the introduction of discrimination through prioritising use of the system. The proposal has the potential to have detrimental, adverse effects upon competition.
CAP148-CR-03	Scottish Renewables	Supports CAP148 as it promotes the more rapid deployment of renewable electricity. Despite environmental issues relating to climate change not being a CUSC Objective, Cap148 helps align the code better with UK Government Energy Policy and the EU Renewable Directive. Does not support charging operational costs back to DTEC users as it negate many of the benefits- this must be avoided. Prefers combination 4BY however recognises it is not an alternative.
CAP148-CR-04	Immingham CHP	Supports the basic concept, the promotion of low carbon energy. The original is discriminatory, Supports option 3BX (WGAA4). Anticipate constraint costs offset by carbon savings and wider policy objectives.
CAP148-CR-05	Renewable Energy Systems Group ('RES')	Supports 4BY (recognises it is not an alternative.) DTEC should be charged as TEC. Does not support targeting of charges for DTEC indeed that would introduce discrimination.
CAP148-CR-06	ScottishPower Energy Wholesale ('Scottish Power')	Support the development of products to manage the GB Queue, however CAP148 would discriminate. It potential adverse impact on existing renewable generation. The governance structure is not capable of dealing with complexities that arise from wider policy objectives.

Reference	Company	Summary of Comments
CAP148- CR-07	Combined Heat and Power Association ('CHPA')	Support the principle, should include all low carbon technologies otherwise discriminatory. Alternative 3BX is 'significantly superior' to the baseline and would be objectively justified. Highlights the provisions of the Cogeneration Directive that links back to Electricity Directive (which was the major argument for) i.e. if implemented due Electricity Directive it should also cover Cogeneration. Recognise it is outside National Grid's gift – regulatory impact assessment should take account of the wider benefits.
CAP148- CR-08	British Energy	Does not support the original or alternative over the baseline. The increased cost to consumers is not warranted by the perceived benefits and is thus inefficient. Providing subsidised entry for a specific technology, and excluding other low carbon technologies, is discriminatory. Concerned if there is an increase in number of derogations. Administered payment is wholly unsatisfactory. Issue of gaining consents is not unique to renewables thus favouring one class of generator is wholly discriminatory and potentially anti-competitive. Do not support CAP148, but support C&M with cost reflective charges, thus incentivising the location of renewables where there is spare capacity exists.
CAP148- CR-09	EdF Energy	Does not support the original or alternative over the baseline. Excessive and volatile BSUoS would be detrimental to consumers. Unduly penalises existing generators. Destroys investment climate for new thermal plant. Introduces disproportionate complexity and transaction costs. Discriminatory against proportional plant e.g. waste plant.
CAP148- CR-10	Centrica	Does not support the original or alternative over the baseline. CAP 148 is deliberately and explicitly discriminatory, it is undue discrimination and introduces a cross subsidy. CUSC governance is not the most appropriate vehicle to implement government policy. The real issue to be addressed is the planning system (for all generation). Supportive of cost reflective charging for DTEC if approved. If implemented it should apply to all low carbon technologies.

Reference	Company	Summary of Comments
CAP148- CR-11	BWEA	Supports implementation with a 3 year lead time; no relieve for delays on National Grid and eligibility for 100% REGOs (4BY in the alternatives matrix). BWEA also support the intention of the proposer that DTEC users should only pay TNUoS and BSUoS. CAP148 is a positive way of providing timely connections and provides a valuable contribution to Government targets.
CAP148- CR-12	Wind Energy Services ('WES')	Support the original over the baseline, preferred alternative 4CY (WGAA3). Taking all factors C&M is economic in the longer term. Proposed different treatment involves due discrimination. Do not agree with National Grid's initial view on charging, it is inappropriate and incorrect. DTEC users should pay TNUoS and BSUoS. Major benefits are a reduced brown price, more TNUoS income, reduced carbon emissions –cost saving, stable background for TO investment. Increased cost may be overstated and not balanced with benefits. The rational for preferential treatment is UK Gov Policy and EU legislation. New generation is currently discriminated against.
CAP148- CR-13	E.ON UK	Does not support the original or alternative over the baseline. Cap 148 is largely unworkable and economically inefficient, creating a cross subsidy for renewables. The proposal is fundamentally inefficient and, ultimately, a wasteful expense borne by consumers. It would be technically inefficient to reschedule prioritise and reschedule construction programmes. It would be futile to constrain one renewable unit off to provide access for another. It is economically efficient to provide a premium product to one class of user (and not at the premium price). The process for implementation is at best risky. Implementation would potentially have a profound implication for TOs licence obligations. CAP 148 is not the only solution, focus on speeding up connection without have detrimental impact on other users and customers.
CAP148- CR-14	Late submission- Scottish and Southern Energy plc ('SSE')	Does not support the original or alternative over the baseline. Raises property rights issues and alters the regulatory risk profile. Cap 148 undermines security of supply. Questions the benefit in the context of wider government objectives and statements.

Reference	Company	Summary of Comments
CAP148- CR-15	Late submission- Highlands and Islands Enterprise (‘HIE’)	Overall strongly supports cap148. Recognising the restrictions in the assessment due to the CUSC Objectives, but note the need to take account of wider Ofgem objectives in the final assessment. Supports the fundamental elements of the proposal – new renewable generation should receive early access and DTEC generator should be the last to be constrained. Ofgem should consider changing National Grid Licence in respect of charging.

National Grid View

- 12.13 National Grid believes that over allocation of firm access rights beyond that which the system is physically capable of (based on the deterministic and economic criteria in the SQSS) is inconsistent with our current licence obligations since it is likely to lead to uneconomic costs (the annual operational costs are expected to far outweigh the annuitised asset costs) being passed through to end consumers if the existing BSUoS or TNUoS charging arrangements were adopted. Alternatively, if DTEC was introduced as proposed in the Original or a WGAA, along with a cost reflective operational charge, it is unlikely that CAP148 would deliver the wider objectives described in the original proposal, indeed it may frustrate the achievement of these wider objectives over the current arrangements since both the original and alternative amendments have mandatory application.
- 12.14 The original amendment suggested that DTEC users should be charged at TNUoS and additional operational costs (constraints) should be passed through TNUoS. Given the potential increase in costs for a relatively small increase in generation National Grid does not believe there is a justification within the current licence to pass through additional costs to all customers, be it through TNUoS or BSUoS. Failing to charge in a cost reflective manner would introduce an additional industry subsidy for renewables and therefore frustrate competition and increase the risk of inefficient decisions by users and transmission licensees. National Grid has indicated that it would seek to treat DTEC as an additional service and charge for that service accordingly (subject to it being an efficient option). This would involve charging DTEC users the additional operational costs incurred. The further merits of various charging arrangements have been discussed at the Transmission Charging Methodologies Forum.
- 12.15 In terms of the original amendment, whilst National Grid appreciates the various benefits of administering bid prices we note that this represents a significant departure from some of the principles of NETA and BETTA. Such a change it has been claimed could have negative implications for the overall functioning of the market. Defaulting to administered prices is a relatively coarse mechanism for managing

potential exercise of locational market power. Furthermore, dealing with mixed holding generation (TEC and DTEC) is technically impracticable under the original amendment and could be overly restrictive and have negative implications for the development of some co-fired technologies.

- 12.16 All of the WGAAAs remove the administered pricing mechanism. Given the likely pressure on operational costs, implementation of any of these WGAAAs would present a number of challenges for regulatory oversight of the market. Note that TEC plant in some areas would be constrained off for a considerable length of time, and whilst reinforcement works were being carried out significantly more plant, including DTEC plant, would need to be constrained off.
- 12.17 The principle of the original and all of the WGAAAs is that they are mandatory. National Grid understands that in combination with a cost reflective pricing principles that this may have a negative implication for the development of new renewables.
- 12.18 National Grid does not believe that within the working group the case for discrimination in the context of the CUSC, excluding wider objectives, was objectively justified. The argument for discrimination appeared to rest on a narrow interpretation of particular government policy that is not currently reflected within the transmission licence. Whilst there is no doubt over the government's wider objectives the original amendment proposal seeks early connection that would result in a significant increase in system operating costs. We note that the Energy White paper seeks quicker connection, but in a 'cost-effective' manner, supporting product and market based approaches to ensure that the all relative costs and benefits are taken account of.
- 12.19 National Grid would like to thank all the members of the working group and particular the Chair for the support provided in progressing the assessment of CAP148. In addition, National Grid would like to thank the all parties who responded to the consultation for clearly committing significant resources to provide a response, especially noting the wide range and fundamental nature of issues raised by CAP148. The work carried out by the working group and issues raise in the response have helped and are continuing to benefit the continuing debate on future arrangements through TAR.

13.0 COMMENTS ON DRAFT AMENDMENT REPORT

- 13.1 National Grid received the following comments on the draft amendment report released 13 November 2007.

Reference	Company	Comments
CAP148-CR-01	EDF Energy	Minor change requested summary of EDF Energy's consultation response
CAP148-CR-02	Scottish and Southern Energy plc (SSE)	Drawing attention to paragraph 4.81 of the report and requesting National Grid address this in the final report.

The responses are attached in Annex 10 to this report.

National Grid view

- 13.2 National Grid has made the minor correction requested by EDF Energy.
- 13.3 SSE correctly points out that the draft Amendment report circulated for comment did not explicitly deal with National Grid's view in response to 4.81. National Grid's view was implied through comments on constraint costs, which are taken to maintain the security of the transmission system. In direct response to 4.81 and to add clarity:

National Grid expects that the system can be managed to remain secure through taking actions in real time. However as discussed in the report, this is likely to result in significant and possibly inefficient costs (unless those costs are reflected back on to the parties receiving access early). Outside the Governance of the CUSC, there may be longer term implications should prioritisation of the connection of renewables delay the normal connection of conventional generation (e.g. through diverting TO resources or preventing outages for access). This point was also made by a number of respondents to the consultation, both those in favour of CAP 148 and those against. We believe these concerns can be addressed in the subsequent discussion on changes to transmission licence and SQSS that have been highlighted in the report. Where the costs are reflected back to parties who gain access earlier, we see no reason to limit the early access product to renewables. This highlights the fundamental element of the CAP148 original - that it was intended to provide subsidised early entry for renewables.

- 13.4 Between the draft amendment report sent out for comment and the report being submitted to the Panel National Grid also made a number minor typographical, formatting and factual corrections.

14.0 AMENDMENT PANEL RECOMMENDATION

14.1 The panel undertook a vote on the original and each Alternative compared to the CUSC baseline, then a vote as to which they considered best overall. The results of the Panel Recommendation Vote are detailed below:

Original – No - unanimous
WGAA 1 (4CX) – No - unanimous
WGAA 2 (4BX) – No- unanimous
WGAA 3 (4CY) – No- unanimous
WGAA 4 (3BX) – No- unanimous
WGAA 5 (4AX) – No- unanimous

BEST overall – N/A

15.0 NATIONAL GRID RECOMMENDATION

15.1 National Grid does not support the implementation of the original or any of the alternatives, believing that they would not better facilitate achievement of the applicable CUSC Objectives (a) & (b). A more detailed explanation is provided in National Grid view above (12.13 to 12.19).

ANNEX 1 – GLOSSARY AND ACRONYMS (not used)

ANNEX 2 - DRAFTING FOR WGAA 2 (4BX)**Annex 2.1 Glossary and definitions of CUSC (4BX)****Add the following new Definitions to CUSC Section 11**

Balancing Services Use of System DTEC Charges	the element of Balancing Services Use of System Charges payable in respect of Balancing Services Activity relating to DTEC ;
Balancing Services Use of System xxx Charges	the element of Balancing Services Use of System Charges payable in respect of Balancing Services Activity other than relating to DTEC ;
DTEC	use of the GB Transmission System prior to all the Construction Works required being completed such use being by reference to the figure specified as such as set out in Appendix C of the relevant Bilateral Connection Agreement or Bilateral Embedded Generation Agreement ;
DTEC Period	the period as defined in a Bilateral Connection Agreement or Bilateral Embedded Generation Agreement in respect of a REGO Power Station during which DTEC applies;
REGO	a Renewable Energy Guarantee of Origin certificate issued by the Authority pursuant to The Electricity (Guarantees of Origin of Electricity Produced From Renewable Energy Sources) Regulations 2003;
REGO Power Station	a Power Station 100% of whose generation qualifies for a REGO ;
REGO User	a User with a Bilateral Connection Agreement or Bilateral Embedded Generation Agreement in respect of a REGO Power Station ;
Transmission Network Use of System DTEC Charges	the element of Use of System Charges payable in respect of Transmission Network Services relating to DTEC ;

End of Annex2.1

Annex 2.2 - Changes to applications forms (4BX)**CUSC Exhibit B (Connection Application) (4BX)**

Add following to Notes as paragraph 16 and renumber subsequent Paragraphs accordingly.

“16 Different considerations apply in terms of **The Company** identifying the **Construction Works** and **Construction Programme** for **Applicants** with **REGO Power Stations.**”

Add following to Section A (details of applicant) as new paragraphs 8 and 9

“8. whether the directly connected **Power Station** which is the subject of this application is a **REGO Power Station.**”

Add on last page of application form the following as Paragraph 8

“8 Where the **Offer** is to provide for **DTEC**, we confirm that the **Power Station** is or will be a **REGO Power Station.**”

Changes to CUSC Exhibit C (Connection Offer) (4BX)

Insert the following as Paragraph 2 and renumber subsequent Paragraphs accordingly.

“2. Where the **Offer** provides for **DTEC**, it is a condition of this **Offer** that the directly connected **Power Station** which is the subject of this **Offer** is a **REGO Power Station.**”

CUSC Exhibit D (Use of System Application)(4BX)

Add following to Notes as paragraph 16 and renumber subsequent Paragraphs accordingly.

“16 Different considerations apply in terms of **The Company** identifying the **Construction Works** and **Construction Programme** for **Applicants** with **REGO Power Stations.**”

Add following to Section A (details of applicant) as new paragraphs 7 and 8

“7. whether the directly connected **Power Station** which is the subject of this application is a **REGO Power Station.**”

Add on last page of application form the following as Paragraph 8

“8 Where the **Offer** is to provide for **DTEC**, we confirm that the **Power Station** is or will be a **REGO Power Station.**”

CUSC Exhibit E (Use of System Offer) (4BX)

Insert the following as Paragraph 2(iii).

“(iii) Where the **Offer** provides for **DTEC**, that the directly connected **Power Station** which is the subject of this **Offer** is a **REGO Power Station**.”

End of annex 2.2

Annex 2.3 - Changes to the CUSC (4BX)

Section 2

Amend 2.3.1 as follows:

2.3.1 Subject to the other provisions of the **CUSC**, the relevant **Bilateral Connection Agreement** and the **Grid Code**, **The Company** shall, as between **The Company** and that **User**, accept into the **GB Transmission System** at each **Connection Site** of a **User** acting in the category of **Power Station** directly connected to the **GB Transmission System**, power generated by such **User** up to a) during the **DTEC Period, DTEC** and b) other than during the **DTEC Period** the **Transmission Entry Capacity** and (if any) **STTEC** and/or **LDTEC** and/or any **Temporary Received TEC** less any **Temporary Donated TEC** for the relevant **Period** in each case as set out in Appendix C of the relevant **Bilateral Connection Agreement** except to the extent (if any) that **The Company** is prevented from doing so by transmission constraints which could not be avoided by the exercise of **Good Industry Practice** by **The Company**.

Amend 2.3.2 as follows:

2.3.2 Subject to the other provisions of the **CUSC**, the relevant **Bilateral Connection Agreement** and the **Grid Code** a **User** acting in the capacity of a **Power Station** directly connected to the **GB Transmission System** shall not export on to the **GB Transmission System** power generated by such **User** in excess of a) during the **DTEC Period, DTEC** and b) other than during the **DTEC Period** the **Transmission Entry Capacity** and (if any) **STTEC** and/or **LDTEC** and/or any **Temporary Received TEC** less any **Temporary Donated TEC** for the relevant **Period** in each case as set out in Appendix C of the relevant **Bilateral Connection Agreement** save as expressly permitted or instructed pursuant to an **Emergency Instruction** under the **Grid Code** or save as expressly permitted or instructed pursuant to the **Fuel Security Code** or as may be necessary or expedient in accordance with **Good Industry Practice**.

Section 3

Amend Paragraph 3.2.3 as follows:

3.2.3 Transmission Entry Capacity

- (a) Other than as provided in Paragraph 3.2.3(b), each **User**, as between **The Company** and that **User**, shall not operate its **User's Equipment** such that its export of power onto the **GB Transmission System** exceeds a) in the case of a **REGO Power Station** during the **DTEC Period, DTEC** and b) otherwise the **Transmission Entry Capacity** and (if any) **STTEC** and/or **LDTEC** and/or any **Temporary Received TEC** less any **Temporary Donated TEC** for the relevant **Period** in each case as set out in Appendix C to the relevant **Bilateral Embedded Generation Agreement** save as expressly permitted and instructed pursuant to an **Emergency Instruction** under the **Grid Code** or save as expressly permitted and instructed pursuant to the **Fuel Security Code**

or as may be necessary or expedient in accordance with **Good Industry Practice**.

- (b) Each **User** in respect of an **Embedded Small Power Station** and a **Distribution Interconnector** and as a **Trading Party** responsible for **Embedded Small Power Stations**, as between **The Company** and that **User**, shall not operate its **User's Equipment** or equipment for which the **User** is responsible (as defined in Section K of the **Balancing and Settlement Code**) such that its export of power onto the **GB Transmission System** exceeds a) in the case of an **Embedded Small Power Station** which is a **REGO Power Station** or a **Trading Party** responsible for **Embedded Small Power Stations** which are **REGO Power Stations** during the **DTEC Period, DTEC** and b) otherwise the **Transmission Entry Capacity** and (if any) **STTEC** and/or **LDTEC** and/or any **Temporary Received TEC** less any **Temporary Donated TEC** for the relevant **Period** in each case as set out in Appendix C to the relevant **Bilateral Embedded Generation Agreement** save as expressly permitted and instructed pursuant to the **Fuel Security Code** or as may be necessary or expedient in accordance with **Good Industry Practice**.

Amend Paragraph 3.2.3 as follows:

- 3.2.4 Subject to the other provisions of the **CUSC** and the **Grid Code** and any relevant **Bilateral Agreement**, **The Company** shall, as between **The Company** and that **User**, accept into the **GB Transmission System** power generated by each **User** up to a) in the case of a **REGO Power Station** during the **DTEC Period, DTEC** and b) otherwise the **Transmission Entry Capacity** and (if any) **STTEC** and/or any **Temporary Received TEC** less any **Temporary Donated TEC** for the relevant **Period** in each case as set out in Appendix C of the relevant **Bilateral Connection Agreement** except to the extent (if any) that **The Company** is prevented from doing so by transmission constraints which could not be avoided by the exercise of **Good Industry Practice** by **The Company**.

Amend Paragraph 3.9.2 as follows:

- 3.9.2 Each **User** shall, as between **The Company** and that **User**, in accordance with this Part II and Paragraph 6.6, be liable to pay to **The Company** (or **The Company** shall be so liable to pay to the **User**) the **Transmission Network Use of System DTEC Charges** or the **Transmission Network Use of System Charges (as appropriate)** and (if appropriate) the **STTEC** and **LDTEC Charge** in respect of its use of the **GB Transmission System** applied and calculated in accordance with the **Statement of Use of System Charges** and **Statement of the Use of System Charging Methodology** and Standard Condition C13 of the **Transmission Licence**.

Amend Paragraph 3.9.3 as follows:

- 3.9.3 Except in respect of **Distribution Interconnector Owners** each **User** shall, as between **The Company** and that **User**, in accordance with this Part II and Paragraph 6.6, be liable to pay to **The Company** in respect of each **Settlement Day** the **Balancing Services Use of**

System TEC Charges (and as appropriate) the Balancing Use of System DTEC Charges calculated in accordance with the **Statement of the Use of System Charging Methodology**.

[or as an alternative to the amends to 3.9.2 and 3.9.3 could add new para 3.9.6 specifically dealing with REGO User's during the DTEC period paying TNUOS DTEC Charges instead of TNUOS Charges and BSUOS and BSUOS DTEC Charges as follows

Add the following as Paragraph 3.9.6

3.9.6 Each REGO User shall, as between The Company and that REGO User, in accordance with this Part II and Paragraph 6.6, be liable during the DTEC Period to

- (a) **pay to The Company (or The Company shall be so liable to pay to the User) the Transmission Network Use of System DTEC Charges (and not Transmission Network Use of System Charges) in respect of its use of the GB Transmission System applied and calculated in accordance with the Statement of Use of System Charges and Statement of the Use of System Charging Methodology, and**
- (b) **in respect of each Settlement Day the Balancing Services Use of System xxx Charges and Balancing Services Use of System DTEC Charges calculated in accordance with the Statement of the Use of System Charging Methodology.**

]

Section 4

In Paragraph 4.1.3.7A add the words "DTEC or" after the word "the" on line 1

Section 6

For Paragraph 6.6 have assumed that the payment of **Transmission Network Use of System DTEC Charges** and **Balancing Use of System DTEC Charges** will be a recurrent monthly payment due and so no changes required.

End of Annex 2.3

Annex 2.4 - Changes to the CUSC Schedule 2 Exhibit 1(B) (Bilateral Connection Agreement – REGO Power Station)

Add the following as new Exhibit 1(B) and renumber existing Exhibit as 1(A) and amend **CUSC** contents page accordingly

CUSC v1.0 Deleted: 3

SCHEDULE 2 - EXHIBIT 1B

DATED []

NATIONAL GRID ELECTRICITY TRANSMISSION PLC (1)

and

[] (2)

THE CONNECTION AND USE OF SYSTEM CODE

BILATERAL CONNECTION AGREEMENT

[FOR A DIRECTLY CONNECTED POWER STATION (REGO USER)] Formatted: Shadow

At [] Deleted: [FOR A DIRECTLY CONNECTED DISTRIBUTION SYSTEM]

Reference: [] [FOR A NON-EMBEDDED CUSTOMER SITE]*

[FOR AN INTERCONNECTOR OWNER] Formatted: Shadow

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CUSC v1.0 Deleted: 3

CONTENTS

- 1. Definitions, Interpretation and Construction
- 2. Commencement
- 3. The Connection Site and Transmission Connection Assets
- 4. Connection Charges
- 5. Use of System
- 6. Credit Requirements
- 7. Connection Entry Capacity and Transmission Entry Capacity
- 8. Compliance with Site Specific Technical Conditions
- 9. Term
- 10. Variations
- 11. General Provisions

Deleted: [Deleted:] (power station only)¶

Deleted: 11. Restrictive Trade Practices Act¶ Deleted: 2

- Appendix A The Connection Site and Transmission Connection Assets
- Appendix B Connection Charges
- Appendix C Connection Entry Capacity and Transmission Entry Capacity (Power Stations and Interconnector Owners)
- Appendix F1 Site Specific Technical Conditions - Agreed Balancing Services
- Appendix F2 [Not Used]
- Appendix F3 Site Specific Technical Conditions - Special Automatic Facilities
- Appendix F4 Site Specific Technical Conditions - Protection and Control Relay Settings - Fault Clearance Times
- Appendix F5 Site Specific Technical Conditions - Load Shedding Frequency Sensitive Relays

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THIS BILATERAL CONNECTION AGREEMENT is made on the [] day of [] 200[]

BETWEEN

- (1) **National Grid Electricity Transmission plc** a company registered in England with number 2366977 whose registered office is at 1-3 Strand, London, WC2N 5EH ("**The Company**", which expression shall include its successors and/or permitted assigns); and
- (2) [] a company registered in [] with number [] whose registered office is at [] ("**User**", which expression shall include its successors and/or permitted assigns)

WHEREAS

- (A) Pursuant to the **Transmission Licence**, **The Company** is required to prepare a Connection and Use of System Code (**CUSC**) setting out the terms of the arrangements for connection to and use of the **GB Transmission System** and the provision of certain **Balancing Services**.
- (B) The **User** has applied for [Connection to] [and use of] [Modification of its existing **Connection to** [and use of]] the **GB Transmission System** and pursuant to the **Transmission Licence** **The Company** is required to offer terms in this respect.
- (C) The **User** has applied for connection [and use] in the capacity of a [] as set out in Paragraph 1.2.4 of the **CUSC**. The Power Station is a REGO Power Station.
- (D) **The Company** and the **User** are parties to the **CUSC Framework Agreement** (being an agreement by which the **CUSC** is made contractually binding between **CUSC Parties**).
- (E) This **Bilateral Connection Agreement** is entered into pursuant to the **CUSC** and shall be read as being governed by it.
- [(F) The parties are also on even date herewith entering into a **Construction Agreement**.]

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NOW IT IS HEREBY AGREED as follows:

1. DEFINITIONS, INTERPRETATION AND CONSTRUCTION

Unless the subject matter or context otherwise requires or is inconsistent therewith, terms and expressions defined in Section 11 of the **CUSC** have the same meanings, interpretations or constructions in this **Bilateral Connection Agreement** [and the following terms and expressions shall have the meaning set out below:-

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"Construction Agreement" the agreement made between the parties of even date herewith for the carrying out of construction works;

"Charging Date" as defined in the **Construction Agreement**;

"DTEC Charging Date" as defined in the **Construction Agreement**;

"DTEC Period" the period between and including the **Operational Notification** and the **WCW Completion Date**;

"Operational Notification" the notification issued by **The Company pursuant to Clause 7 of the Construction Agreement**;

"WCW Completion Date" as defined in the **Construction Agreement**;

2. **COMMENCEMENT**

This **Bilateral Connection Agreement** shall commence on [].

3. **THE CONNECTION SITE AND TRANSMISSION CONNECTION ASSETS**

The **Connection Site** and **Transmission Connection Assets** to which this **Bilateral Connection Agreement** relates is more particularly described in Appendix A.

4. **CONNECTION CHARGES**

The **Connection Charges** payable by the **User** in accordance with the **CUSC** in respect of the **Transmission Connection Assets** set out in Appendix A [(including the **One-Off Charge**)] are set out in Appendix B. These **Connection Charges** shall be payable by the **User** from the earlier of the **DTEC Charging Date** or **Charging Date**.

5. **USE OF SYSTEM**

5.1 The right to use the **GB Transmission System** shall commence on the issue of the **Operational Notification** by reference to **DTEC** during the **DTEC Period** (if any) and thereafter by reference to **Transmission Entry Capacity**...

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5.2 Use of System Charges shall be payable by the User from the earlier of the DTEC Charging Date or Charging Date.

6. CREDIT REQUIREMENTS

The amount to be secured by the User from [date] is set out in the Secured Amount Statement issued from time to time and as varied from time to time in accordance with Section 2 of the CUSC.

7. CONNECTION ENTRY CAPACITY AND TRANSMISSION ENTRY CAPACITY

7.1 The Connection Entry Capacity in relation to the Generating Units and the Connection Site and the DTEC and the Transmission Entry Capacity in relation to the Connection Site are specified in Appendix C.

7.2 Appendix C Part 4 will set out the BM Unit Identifiers of the BM Units registered at the Connection Site under the Balancing and Settlement Code. The User will provide The Company with the information needed to complete details of these BM Unit Identifiers as soon as practicable after the date hereof and thereafter in association with any request to modify the Transmission Entry Capacity and The Company shall prepare and issue a revised Appendix C incorporating this information. The User shall notify The Company prior to any alteration in the BM Unit Identifiers and The Company shall prepared and issue a revised Appendix C incorporating this information.

7.3 The Company shall monitor the Users compliance with its obligation relating to DTEC and Transmission Entry Capacity against the sum of metered volumes of the BM Units set out in Part 4 of Appendix C submitted by the User for each Settlement Period.

8. COMPLIANCE WITH SITE SPECIFIC TECHNICAL CONDITIONS

The site specific technical conditions applying to the Connection Site are set out in Appendices F1 to F5 to this Bilateral Connection Agreement as modified from time to time in accordance with Paragraph 6.9 of the CUSC.

9. TERM

Subject to the provisions for earlier termination set out in the CUSC this Bilateral Connection Agreement shall continue until the User's

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Equipment is **Disconnected** from the **GB Transmission System** at the **Connection Site** in accordance with Section 5 of the **CUSC**.

10. VARIATIONS

- 10.1.1 Subject to Clause 10.2, 10.3 and 10.4 below, no variation to this **Bilateral Connection Agreement** shall be effective unless made in writing and signed by or on behalf of both **The Company** and the **User**.
- 10.2 **The Company** and the **User** shall effect any amendment required to be made to this **Bilateral Connection Agreement** by the **Authority** as a result of a change in the **CUSC** or the **Transmission Licence**, an order or direction made pursuant to the **Act** or a **Licence**, or as a result of settling any of the terms hereof. The **User** hereby authorises and instructs **The Company** to make any such amendment on its behalf and undertakes not to withdraw, qualify or revoke such authority or instruction at any time.
- 10.3 **The Company** has the right to vary Appendices A and B in accordance with this **Bilateral Connection Agreement** and the **CUSC** including any variation necessary to enable **The Company** to charge in accordance with the **Charging Statements**, or upon any change to the **Charging Statements**.
- 10.4 Appendices A and B shall be varied automatically to reflect any change to the **Construction Works or Transmission Connection Assets** as provided for in the **Construction Agreement**.

11. GENERAL PROVISIONS

Paragraph 6.10 and Paragraphs 6.12 to 6.26 of the **CUSC** are incorporated into this **Bilateral Connection Agreement** *mutatis mutandis*.

IN WITNESS WHEREOF the hands of the duly authorised representatives of the parties hereto at the date first above written

SIGNED BY)
 [name])
 for and on behalf of)
 National Grid Electricity Transmission plc)

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 Any restriction or information provision (as each of those terms are defined or construed in Section 43(1) of the Restrictive Trade Practices Act 1976) contained in this **Bilateral Connection Agreement** shall not take effect or shall cease to have effect: f
 ->if a copy of this **Bilateral Connection Agreement** is not provided to the Department of Trade and Industry (DTI) within 28 days of the date of this **Bilateral Connection Agreement**; or f
 ->if, within 28 days of the provision of that copy to the DTI, the DTI gives notice of objection to the party providing it. f

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SIGNED BY)
[name])
for and on behalf of)
[User])

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APPENDIX A

TRANSMISSION CONNECTION ASSET/CONNECTION SITE

Company: []
 Connection Site: []
 Type: []

Part 1 - Pre-Vesting Assets

<u>Allocation</u>	<u>Description</u>	<u>Age</u> (As at [])	<u>Year</u>
-------------------	--------------------	---------------------------	-------------

Part 2 - Post-Vesting Assets

<u>Allocation</u>	<u>Description</u>	<u>Age</u> (As at [])	<u>Year</u>
-------------------	--------------------	---------------------------	-------------

Part 3 - Energy Metering Systems (*)

<u>Allocation</u>	<u>Description</u>	<u>Age</u> (As at [])	<u>Year</u>
-------------------	--------------------	---------------------------	-------------

(*) FMS, Energy Metering Systems - The Electronics components have a 15 year replacement period. The Non-Electronics components have a 40 year replacement period.

All the above are inclusive of civil engineering works. At double busbar type substations, ownership of main and reserve busbars follows ownership of section switches.

Diagram Reference: []
 Appendix Reference: []
 Agreement Reference: []

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APPENDIX B

CONNECTION CHARGES/PAYMENT

Company: []
Connection Site: []
Type: []

(1) Connection Charges

The Connection Charges set out below may be revised in accordance with the terms of this Bilateral Connection Agreement and/or the Construction Agreement and/or the CUSC and/or the Charging Statements

Part 1 - Pre-Vesting Assets

The Connection Charge for those assets extant at 31st March 1990 and specified in Appendix A Part 1 will be at an annual rate for the period [] to [] of £[] where

Rate of Return = []%

Transmission Costs

Part A Site specific maintenance element = £[]
Part B Other transmission costs element = £[]

Part 2 - Post-Vesting Assets

The Connection Charge for those assets installed for this agreement after 31st March 1990 and specified in Appendix A Part 2 will be at an annual rate for the period [] to [] of £[] where

Rate of Return = []%

Transmission Costs

Part A Site specific maintenance element = £[]
Part B Other transmission costs element = £[]

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Part 3 - Energy Metering Systems

For FMS, Energy Metering Systems assets, installed for this agreement as specified in Appendix A Part 3 the Connection Charge will be at an annual rate for the period from [] to [] of £[]

Part 4 - Miscellaneous Charges

The miscellaneous charge shall be £[] in respect of the period from [] to [] payable as an estimated indexed charge in twelve monthly instalments subject to adjustment in accordance with the terms of this Bilateral Connection Agreement and/or the CUSC and/or the Charging Statements

Part 5 - One-off / Transmission Charges

The transmission charge shall be £[] in respect of the period from [] to [] payable as an estimated indexed charge in twelve monthly instalments subject to adjustment in accordance with the terms of this Bilateral Connection Agreement and/or the CUSC and/or the Charging Statements

(2) Payment

The Connection Charges for Parts 1 to 6 shall be payable in equal monthly instalments as specified in Paragraph 6.6 of the CUSC

Appendix Reference: []

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APPENDIX C (Power Stations)

| **CONNECTION ENTRY CAPACITY, DTEC AND TRANSMISSION ENTRY CAPACITY**

Company:
Grid Supply Point/Connection Site:

Part 1 Connection Entry Capacity

Connection Entry Capacity (CEC) expressed as an instantaneous MW figure

	CEC(MW)
Power Station	[]
Generating Unit	
Genset 1	[]
Genset 2	[]
Genset 3	[]
Genset 4	[]

Part 2 Transmission Entry Capacity

Transmission Entry Capacity (TEC) expressed in average MW taken over a half hour settlement period

TEC(MW)	
Power Station	[]

Part 3 DTEC

DTEC expressed in average MW taken over a half hour settlement period

<u>DTEC(MW)</u>	
<u>Power Station</u>	[]

Part 4 BM Units comprising Power Station

- T_BMU 1 (Associated with Genset 1)
- T_BMU 2 (Associated with Genset 2)
- T_BMU 3 (Associated with Genset 3)
- T_BMU 4 (Associated with Genset 4)
- T_BMU SD-1 (Station Demand)
- T_BMU AD-1 (Additional Trading Site Demand)

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(Interconnector Owners)
CONNECTION ENTRY
CAPACITY AND
TRANSMISSION ENTRY
CAPACITY

Company

Connection Site

Part 1 Connection Entry
Capacity

Connection Entry Capacity
(CEC) expressed as an
instantaneous MW figure

CEC(MW)

Interconnector . . . []

Part 2 Transmission Entry
Capacity

Transmission Entry Capacity
(TEC) expressed in average
MW taken over a half hour
settlement period

Interconnector . . . []

Part 3 BM Units comprising
Interconnector

All BMU's starting with an
identifier [FRA for example].
No need to list all individual
BMU's

Part 4 Figure for the
Purposes of CUSC Paragraph
9.6

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APPENDIX F1
SITE SPECIFIC TECHNICAL CONDITIONS:
AGREED BALANCING SERVICES

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APPENDIX F2
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APPENDIX F3
SITE SPECIFIC TECHNICAL CONDITIONS:
SPECIAL AUTOMATIC FACILITIES

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APPENDIX F4
SITE SPECIFIC TECHNICAL CONDITIONS:
PROTECTION AND CONTROL RELAY SETTINGS
FAULT CLEARANCE TIMES

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APPENDIX F5
SITE SPECIFIC TECHNICAL CONDITIONS:
LOAD SHEDDING FREQUENCY SENSITIVE RELAYS

END OF SCHEDULE 2 - EXHIBIT 1

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Annex 2.5 - CUSC Schedule 2 Exhibit 3 (Construction Agreement-REGO Power Station)

Add the following as new Exhibit 3 (B) and renumber existing Exhibit 3 as 3 (A) and amend **CUSC** contents page accordingly

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SCHEDULE 2 EXHIBIT 3B

INDICATIVE

DATED [] 200[1]

NATIONAL GRID ELECTRICITY TRANSMISSION PLC (1)

and

[] (2)

THE CONNECTION AND USE OF SYSTEM CODE

CONSTRUCTION AGREEMENT (REGO USER)

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CONTENTS

<u>Clause</u>	<u>Title</u>
1	Definitions, Interpretation and Construction
2	Carrying out of the Works
3	Delays
4	Commissioning Programme and Liquidated Damages
5	Approval to Connect/Energise/Become Operational
6	Independent Engineer
7	Becoming Operational
8	Compliance with Site Specific Technical Conditions
9	Credit Requirements
10	Event of Default
11	Termination on Event of Default
12	Term
13	CUSC
14	Disputes
15	Variations
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Appendix B1	One Off Works
Appendix G	Transmission Connection Asset Works
Appendix H	Transmission Reinforcement Works
Appendix I	User's Works
Appendix J	Construction Programme
Appendix K	Liquidated Damages
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..... Deleted: 7th April	
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Appendix L	Independent Engineer	
Appendix M	Security Arrangements	
Appendix N	Third Party Works	

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THIS CONSTRUCTION AGREEMENT is made on the [] day of [] 200[1]

BETWEEN

- (1) National Grid Electricity Transmission plc a company registered in England with number 2366977 whose registered office is at 1-3 Strand, London, WC2N 5EH (**"The Company"**, which expression shall include its successors and/or permitted assigns); and
- (2) [] a company registered in [] with number [] whose registered office is at [] (**"User"**, which expression shall include its successors and/or permitted assigns)

WHEREAS

- (A) Pursuant to the **Transmission Licence**, **The Company** has prepared a Connection and Use of System Code (**CUSC**) setting out the terms of the arrangements for connection to and use of the **GB Transmission System** and the provision of certain **Balancing Services**.
- (B) **The User** has applied for [connection to] [and use of] [modification to its connection to] [or use of] the **GB Transmission System** and pursuant to Standard Condition C8 of the **Transmission Licence**, **The Company** is required to offer terms in accordance with the **CUSC** in this respect or [specific recital to reflect that the **Construction Agreement** is an amendment of an existing signed offer pursuant to the **CUSC** amending documents]
- (C) **The Company** and the **User** are parties to the **CUSC Framework Agreement** (being an agreement by which the **CUSC** is made contractually binding between the parties).
- (D) Certain works are required as part of this offer as set out in this **Construction Agreement**.
- (E) This **Construction Agreement** is entered into pursuant to the terms of the **CUSC**.

NOW IT IS HEREBY AGREED as follows:

1.1. DEFINITIONS, INTERPRETATION AND CONSTRUCTION

Unless the subject matter or context otherwise requires or is inconsistent therewith, terms and expressions defined in Section 11 of the **CUSC** and in

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CUSC v1.0	the Bilateral Connection Agreement have the same meanings, interpretations or constructions in this Construction Agreement .	Deleted: 2
"Authority"	as defined in the CUSC.	Formatted Table
"Bilateral Connection Agreement"	the Bilateral Connection Agreement entered into between the parties on even date herewith.	
"Bilateral Embedded Generation Agreement"	the Bilateral Embedded Generation Agreement entered into between the parties on even date herewith.	
"Charging Date"	The date upon which the Construction Works are first Commissioned and available for use by the User or if the Independent Engineer before, on or after the Commissioning Programme Commencement Date shall have certified in writing that the Transmission Connection Assets , are completed to a stage where The Company could commence commissioning and by such date the User's Works shall not have been so certified then the date falling [] days after the date of such certification, provided that the Transmission Reinforcement Works are Commissioned and Seven Year Statement Works are completed as at that date. In the event that the Transmission Reinforcement Works are not so Commissioned and/or the Seven Year Statement Works are not so completed the Charging Date shall be the date on which they are Commissioned and/or completed as appropriate.	Formatted: Font: (Default) Arial Formatted: Font: Bold Formatted: Font: (Default) Arial Formatted: Font: Bold Formatted: Font: (Default) Arial
"Commissioning Programme Commencement Date"	the date specified in the Construction Programme for the commencement of the Commissioning Programme or any substituted date fixed under the terms of this Construction Agreement	Deleted: 2 Deleted: 7 th April Deleted: 6
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	"Commissioning Programme"	the sequence of operations/tests necessary to connect the User's Works and the DC Construction Works to the GB Transmission System for the purpose of making the User's Works available for operation to be determined pursuant to Clause 2.10 of this Construction Agreement .	Deleted: Transmission Connection Asset Deleted:
	"Connected Planning Data"	data required pursuant to the Planning Code which replaces data containing estimated values assumed for planning purposes by validated actual values and updated estimates for the future and by updated forecasts for forecast data items.	Deleted: "Completion Data" Deleted: [] or such other data as may be agreed in terms of this Construction Agreement
	"Consents"	in relation to any Works :- (a) all such planning and other statutory consents; and (b) all wayleaves, easements, rights over or interests in land or any other consent; or (c) permission of any kind as shall be necessary for the construction of the Works and for commencement and carrying on of any activity proposed to be undertaken at or from such Works when completed.	
	"Construction Programme"	the agreed programme for the Works to be carried out by The Company and the User set out in detail in Appendix [J] to this Construction Agreement or as amended from time to time pursuant to Clauses 2.3 and 3.2 of this Construction Agreement .	
	"Construction Site"	the site where the Transmission Connection Asset Works are being undertaken by or on behalf of The Company ;	Deleted: 2 Deleted: 7 th April Deleted: 6
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"Construction Works"	the <u>DC Construction Works and the Wider Construction Works.</u>	Deleted: Transmission Connection Asset Works, Transmission Reinforcement Works, Seven Year Statement Works and One Off Works and such additional works as are required in order to comply with any relevant Consents relating to any such works but excluding for the avoidance of doubt any Third Party Works
"DCCW Completion Date"	[] or such other date as may be agreed in terms of this <u>Construction Agreement</u> for completion of the <u>User's Works and the DC Construction Works.</u>	Formatted: Font: Not Bold
"DC Construction Works"	the <u>Transmission Connection Asset Works, DC Transmission Reinforcement Works and DC One Off Works</u> and such additional works as are required in order to comply with any relevant <u>Consents</u> relating to any such works but excluding for the avoidance of doubt any <u>DC Third Party Works</u> such works being those parts of the <u>Construction Works</u> which in <u>The Company's</u> reasonable opinion are required to be completed prior to the connection and operation of the <u>User's Equipment</u> to ensure that the <u>GB Transmission System</u> complies with Chapter 2 of the <u>GBSQSS</u> but disregarding for the assessment under Chapter 2 any generation other than generation from <u>REGO Power Stations.</u>	
"DC One Off Works"	the works described in <u>Appendix B1 Section 1</u> to this <u>Construction Agreement.</u>	
"DC Third Party Works"	the works to be procured by the <u>User</u> and specified in <u>Appendix N Section 1.</u>	Formatted: Font: Bold
"DC Transmission Reinforcement Works"	those works other than the <u>Wider Construction Works, Transmission Connection Asset Works and DC One Off Works</u> which in the reasonable opinion of <u>The Company</u> are necessary to extend or reinforce the <u>GB Transmission System</u> in relation to the	Deleted: 2 Deleted: 7 th April Deleted: 6
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connection and operation of the **User's Equipment** at the **Connection Site** and which are specified in Appendix H Part 1 to this **Construction Agreement**.

"Dispute Resolution Procedure" the procedure for referral to arbitration set out in Paragraph 7.4 of the CUSC. Formatted Table

"DTEC Available Date" means the later of the date:

- a) upon which the **DC Construction Works are Commissioned** and the **DC Third Party Works** are completed, or
- b) 48 months from the date hereof where the **DC Construction Works** have been **Commissioned** and the **DC Third Party Works** have been completed earlier than 48 months from the date hereof, or
- c) 48 months from the grant of the **Power Station Consent** where the **DC Construction Works** have been **Commissioned** and the **DC Third Party Works** have been completed earlier than 48 months from the grant of the **Power Station Consent**.

"DTEC Charging Date" means the earlier of

- (a) the **DTEC Available Date**, or
- (b) the date upon which the **DC Connection Asset Works** are first **Commissioned** and available for use by the **User** or if the **Independent Engineer**

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before, on or after the **Commissioning Programme Commencement Date** shall have certified in writing that the **DC Connection Asset Works** are completed to a stage where **The Company** could commence commissioning and by such date the **User's Works** shall not have been so certified then the date falling [] days after the date of such certification, provided that the **DC Transmission Reinforcement Works** are Commissioned as at that date. In the event that the **DC Transmission Reinforcement Works** are not so Commissioned the **DTEC Charging Date** shall be the date on which they are Commissioned, or

(c) **The Expected DCCW Completion Date** Formatted: Bullets and Numbering

"Event of Default" any of the events set out in Clause 10 of this **Construction Agreement** as constituting an event of default.

"Expected DCCW Completion Date" the insert date - being the **DCCW Completion Date** applying prior to any Deleted: 2
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"Final Sums"	<p><u>variation to the Construction Programme instigated by the User other than pursuant to Clause 3.2.</u></p> <p>the amount payable by the User on termination of this Construction Agreement being the aggregate from time to time and for the time being of:-</p> <ol style="list-style-type: none"> (1) all The Company Engineering Charges arisen prior to the date of termination; (2) fees, expenses and costs (excluding costs on account of interest charges incurred by The Company) of whatever nature reasonably and properly incurred or due by The Company in respect of any part of the Construction Works carried out prior to the date of termination of this Construction Agreement; (3) fees, expenses and costs properly payable by The Company in respect of, or arising from the termination by it or any third party of any contract for or relating to the carrying out of any Construction Works provided it is negotiated on an arms length basis (including any such arising under the STC); (4) a sum equal to the reasonable costs of removing any Transmission Connection Assets and of making good the remaining Plant and Apparatus following such removal; and (5) interest on any such amounts from the date they were paid by The Company to the date of The <p>v1.0 - [1] 2007</p>
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	Company's invoice at 2% over Base Rate from time to time and for the time being.
	Provided that no sum shall be due in respect of Final Sums in respect of fees, expenses and costs associated with (a) the Seven Year Statement Works and/or (b) Transmission Reinforcement Works required for wider system reasons and specified in Part 2 of Appendix H.
	Any dispute as to the amount of Final Sums shall be referred to arbitration in accordance with the Dispute Resolution Procedure .
"Independent Engineer"	the engineer specified in Appendix L to this Construction Agreement . Provided that:-
	(a) where the parties fail to agree on a suitable engineer within 120 days of the date of this Construction Agreement ; or
	(b) where any Independent Engineer appointed from time to time shall fail, refuse or cease to act in the capacity set out herein and no substitute engineer of suitable standing and qualification can be agreed by the parties within 30 days;
	then such engineer as the President of the Institution of <u>Engineering and Technology</u> shall, on the application of either party, nominate shall be the Independent Engineer .
"Liquidated Damages"	the sums specified in or calculated pursuant to Appendix K to this Construction Agreement .
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"One Off Works"	<u>the DC One Off Works and Wider One Off Works.</u>	Formatted: Font: Not Bold
"Power Station Consent"	<u>the consent for the User's Power Station granted under Section 36 of the Electricity Act 1989 or planning permission for the User's Power Station granted under the Town and Country Planning Act 1990 in England & Wales or any amendment thereto or the Town and Country Planning (Scotland) Act 1997 or any amendment thereto]</u>	Deleted: the works described in Appendix B1 to this Construction Agreement.¶ Formatted: Font: Bold Formatted: Font: Bold Formatted: Font: 11 pt Formatted: Font: Bold Formatted: Font: Bold
"Seven Year Statement Works"	the works set out in Table 6.2 of the statement prepared by The Company pursuant to Standard Condition C11 of the Transmission Licence and issued by The Company in [] which in The Company's reasonable opinion are required to be completed before the <u>WCW Completion Date</u> to ensure that the GB Transmission System complies with the requirements of Standard Condition C17 of the Transmission Licence and Standard Condition D3 of any Relevant Transmission Licensee's transmission licence given the Connection and operation of the User's Equipment in terms of Clause 7.1 [or 7.2] of this Construction Agreement.	Deleted: B7 Formatted: Font: Bold, Not Highlight Formatted: Font: Not Bold Formatted: Font: Not Bold Formatted: Font: Not Bold Deleted: prior to Formatted: Not Highlight Formatted: Font: Not Bold Formatted: Not Highlight Formatted: Font: Bold Formatted: Font: Not Bold Deleted: . Formatted: Font: Not Bold
"Term"	the term of this Construction Agreement commencing on the date hereof and ending in accordance with Clause 12.	Formatted: Font: Not Bold
"Third Party Works"	<u>the DC Third Party Works and the Wider Third Party Works.</u>	Deleted: the works specified in Appendix N
"Transmission Connection Assets"	the assets specified in Appendix A to the Bilateral Connection Agreement.	Deleted: 2
"Transmission Connection Asset"	the works necessary for construction and	Deleted: 7 th April Deleted: 6

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Works"	installation of the Transmission Connection Assets at the Connection Site specified in Appendix G to this Construction Agreement .	
"Transmission Reinforcement Works"	the DC Transmission Reinforcement Works and Wider Transmission Reinforcement Works .	Formatted: Font: Bold Formatted: Font: Bold
"WCW Completion Date"	[] or such other date as may be agreed in terms of this Construction Agreement for completion of the Wider Construction Works .	
"WCW Planning Consents"	the [specify consents for project eg consent under Section 37 of the Electricity Act for the new x to x 275kV overhead line forming part of the Wider Transmission Reinforcement Works].	Formatted: Font: Bold
"Wider Construction Works"	the Wider Transmission Reinforcement Works , Wider Seven Year Statement Works and Wider One Off Works and such additional works as are required in order to comply with any relevant Consents relating to any such works but excluding for the avoidance of doubt any Wider Third Party Works .	
"Wider One Off Works"	the works described in Appendix B1 Section 2 to this Construction Agreement .	
"Wider Third Party Works"	the works to be procured by the User and specified in Appendix N Section 2 .	Formatted Table Formatted: Font: Bold Deleted: Transmission Connection Asset Works, Formatted: Font: Bold Formatted: Font: Bold Deleted: and prior to Formatted: Highlight Deleted: connection Deleted: 2 Deleted: 7 th April Deleted: 6
"Wider Transmission Reinforcement Works"	those works other than the DC Construction Works , Seven Year Statement Works and Wider One Off Works , which in the reasonable opinion of The Company are necessary to extend or reinforce the GB Transmission System in relation to the operation of the User's Equipment at	
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	the Connection Site and which are specified in Appendix H Part 2 to this Construction Agreement .	
"User's Works"	those works necessary for installation of the User's Equipment which are specified in Appendix I to this Construction Agreement .	Deleted: where Part 1 is works required for the User and Part 2 is works required for wider system reasons
	"Works"	the Construction Works and the User's Works .

2. CARRYING OUT OF THE WORKS

2.1 Forthwith following the date of this **Construction Agreement** (i) in respect of **Connection Sites** in England and Wales **The Company** and the **User** shall agree the **Safety Rules** and **Local Safety Instructions** to apply during the **Construction Programme** and **Commissioning Programme**; and (ii) in respect of **Connection Sites** in Scotland the **User** shall agree with the **Relevant Transmission Licensee** the **Safety Rules** and **Local Safety Instructions** to apply during the **Construction Programme** and **Commissioning Programme**. Failing agreement within three months of the date of this **Construction Agreement** the matter shall be referred to the **Independent Engineer** for determination in accordance with Clause 6 of the **Construction Agreement**.

2.2 Subject to Clauses 2.3 and 2.4 of this **Construction Agreement** forthwith following the date of this **Construction Agreement** **The Company** shall use its best endeavours to obtain in relation to the **Construction Works**, and the **User** shall use its best endeavours to obtain in relation to the **User's Works**, all **Consents**. Each shall give advice and assistance to the other to the extent reasonably required by the other in the furtherance of these obligations. Further, each party shall, so far as it is legally able to do so, grant to, in relation to **Connection Sites** in England and Wales, the other, or in relation to **Connection Sites** in Scotland, the **Relevant Transmission Licensee**, all such wayleaves, easements, servitude rights, rights over or interests (but not estates as regards land in England and Wales and not heritable or leasehold interests as regards land in Scotland) in land or any other consents reasonably required by the other or the **Relevant Transmission Licensee** in order to enable the **Works** to be expeditiously completed and to enable that other to carry out its obligations to the other under this **Construction Agreement** and in all cases subject to such terms and conditions as are reasonable.

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2.3 The following additional provisions shall apply in respect of the **Consents** and **Construction Works**:-

2.3.1 All dates specified in this **Construction Agreement** are subject to **The Company** obtaining **Consents** for the **DC Construction Works** in a form acceptable to it within the time required to carry out the **DC Construction Works** in accordance with the **Construction Programme**. Deleted: Construction
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2.3.2 In the event of:-

(a) the **Consents for the DC Construction Works** not being obtained by the required date; or

(b) the **Consents for the DC Works** being subject to conditions which affect the dates of the **DC Works**; or Formatted: Font: Bold

(c) **The Company** wishing to amend the **DC Construction Works** to facilitate the granting of the **Consents for the DC Construction Works**. Deleted: Construction

The Company shall be entitled to revise the **DC Construction Works** (and as a consequence Appendix A to the **Bilateral Connection Agreement**) and all dates specified in this **Construction Agreement** and the charges specified in Appendix B to the **Bilateral Connection Agreement**. For the avoidance of doubt such revisions shall be at **The Company's** absolute discretion and the consent of the **User** is not required. Deleted:

2.3.3 All dates specified in this **Construction Agreement** are subject to **The Company** obtaining **Consents** (other than the **WCW Planning Consents**) for the **Wider Construction Works** in a form acceptable to it within the time required to carry out the **Wider Construction Works** in accordance with the **Construction Programme**. Formatted: Bullets and Numbering
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2.3.4 In the event of:-

(a) the **Consents** (other than the **WCW Planning Consents**) for the **Wider Construction Works** not being obtained by the required date; or Formatted: Font: Bold

(b) the **Consents** (other than the **WCW Planning Consents**) for the **Wider Construction Works** being subject to conditions which affect the dates for the **Wider Construction Works**; or Formatted: Font: Bold
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(c) The Company wishing to amend the DC Construction Works to facilitate the granting of the Consents for the DC Construction Works.

The Company shall be entitled to revise the Wider Construction Works and (except in the case of (c) above) all dates specified in this Construction Agreement and the charges specified in Appendix B to the Bilateral Connection Agreement in so far in each case as it relates to such Wider Construction Works. For the avoidance of doubt such revisions shall be at The Company's absolute discretion and the consent of the User is not required.

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2.3.5 The User shall be regularly updated by The Company in writing or by such other means as the parties may agree as to progress made by The Company from time to time in the obtaining of relevant Consents pursuant to its obligations under Clause 2.2 or 2.3 of this Construction Agreement.

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2.4.1 The User shall be liable to pay to The Company as part of any Final Sums due:- [not strictly part of this mod but aligns with current national grid policy]

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- (a) all The Company's Engineering Charges accrued; and
- (b) proper and reasonable out-of-pocket expenses incurred and/or paid or which The Company is legally bound to incur or pay

in seeking and obtaining the Consents the subject of Clause 2.2 of this Construction Agreement excluding any costs associated with the Seven Year Statement Works and the works specified in Part 2 of Appendix H.

The User acknowledges these out of pocket ancillary expenses may include planning inquiries or appeals and the capital costs together with reasonable legal and surveyors costs of landowners or occupiers in acquiring permanent easements or other rights in respect of any electric line or underground cable forming part of the Transmission Connection Asset Works. This sum shall not include any capital costs incurred by The Company, in relation to Connection Sites in England and Wales, in the acquisition by it of the freehold of any land or any Relevant Transmission Licensee, in relation to Connection Sites in Scotland, in the acquisition by it of the feuhold of any land. The Company shall keep the User informed of the level of such

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charges and expenses being incurred. The **User** shall pay such sums within 28 (twenty eight) days of the date of **The Company's** invoice therefor.

2.4.2 Paragraphs 11.2.3 to 11.2.5 of the **CUSC** relating to **Consents** shall apply to the **Construction Agreement** as if set out here in full.

2.5 Prior to the commencement of the **Transmission Connection Asset Works** the **User** shall have the right to terminate this **Construction Agreement** upon giving not less than 7 (seven) days notice in writing to **The Company**. In the event of the **User** terminating this **Construction Agreement** in terms of this Clause 2.5 the **User** shall in addition to the payments for which it is liable under Clause 2.4 hereof be liable to pay to **The Company** a sum equal to **The Company's** estimate or if applicable revised estimate of **Final Sums**. The **User** shall pay such sums within 14 (fourteen) days of the date of **The Company's** invoice(s) therefor on termination where applicable **The Company** shall disconnect the **User's Equipment** at the **Connection Site** and:

- (a) the **User** shall remove any of the **User's Equipment** on, in relation to **Connection Sites** in England and Wales, **The Company's** or, in relation to **Connection Sites** in Scotland, **Relevant Transmission Licensee's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**; and
- (b) in the case of **Connection Sites** in England and Wales, **The Company** shall remove and, in the case of **Connection Sites** in Scotland, **The Company** shall procure that the **Relevant Transmission Licensee** removes, any of the **Transmission Connection Assets** on the **User's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**.

2.6 If the **User** fails to obtain all **Consents** for the **User's Works** having complied with the obligations in Clause 2.2 of this **Construction Agreement** the obligation on the **User** to complete the **User's Works** shall cease and the **User** may by written notice to **The Company** terminate this **Construction Agreement** whereupon the **User** shall in addition to the sums for which it is liable under Clause 2.4 hereof be liable to pay to **The Company** a sum equal to **The Company's** estimate or if applicable revised estimate of **Final Sums**. The **User** shall pay such sums within 14 (fourteen) days of the date of **The Company's** invoice(s) therefor and (where applicable) on termination **The**

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Company shall disconnect the **User's Equipment** at the **Connection Site** and;

(a) the **User** shall remove any of the **User's Equipment** on, in relation to **Connection Sites** in England and Wales, **The Company's** or, in relation to **Connection Sites** in Scotland, **Relevant Transmission Licensee's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**; and

(b) in the case of **Connection Sites** in England and Wales, **The Company** shall remove and, in the case of **Connection Sites** in Scotland, **The Company** shall procure that the **Relevant Transmission Licensee** removes, any of the **Transmission Connection Assets** on the **User's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**.

2.7 Both parties shall be entitled to contract or sub-contract for the carrying out of their respective parts of the **Works** (which in the case of **The Company** shall include work carried out by a **Relevant Transmission Licensee** or its contractors or sub-contractors). The **User** or any contractor on its behalf shall be responsible for commencing and for carrying out the **User's Works** to such stage of completion as shall render them capable of being **Commissioned** in accordance with the **Construction Programme** and **The Company** or any contractor on its behalf shall be responsible for commencing and carrying out the **DC Construction Works** to such stage of completion as shall render them capable of being **Commissioned** in accordance with the **Construction Programme** and carrying out the **Wider Construction Works** so that they are completed in accordance with the **Construction Programme**. Deleted: Construction
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2.8 The parties shall continuously liaise throughout the **Construction Programme** and **Commissioning Programme** and each shall provide to the other all information relating to its own **Works** reasonably necessary to assist the other in performance of that other's part of the **Works**, and shall use all reasonable endeavours to coordinate and integrate their respective part of the **Works**. There shall be on-site meetings between representatives of the parties at intervals to be agreed between the parties. Each party shall deliver to the other party a written report of progress during each calendar quarter within 7 days of the end of that quarter.

2.9 During the period of and at the times and otherwise as provided in the **Construction Programme** and the **Commissioning Programme** The Deleted: 2
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Company shall allow the **User**, its employees, agents, suppliers, contractors and sub-contractors necessary access to the **Construction Site** and the **User** shall allow **The Company** or, in the case of **Connection Sites** in Scotland, the **Relevant Transmission Licensee** and in either case their employees, agents, suppliers, contractors and sub-contractors necessary access to its site to enable each to carry out the **Transmission Connection Asset Works** and **One Off Works** or **User's Works** but not so as to disrupt or delay the construction and completion of the other's **Works** on the said sites or the operation of the other's **Plant** and **Apparatus** located thereon, such access to be in accordance with any reasonable regulations relating thereto made by the site owner or occupier.

2.10 Not later than six months prior to the **Commissioning Programme Commencement Date** **The Company** shall provide the **User** with a draft **Commissioning Programme** for the **Commissioning** of the **DC Construction Works**, and the **User's Equipment**. Deleted: Transmission Connection Assets The **User** shall, as quickly as practicable and in any event within three months of receipt thereof, determine whether or not to approve the proposed **Commissioning Programme** (which approval shall not be unreasonably withheld or delayed) and shall within such three month period either notify **The Company** of its approval or, in the event that the **User** reasonably withholds its approval, notify **The Company** of any changes or variations to the proposed commissioning programme recommended by the **User**. If **The Company** does not accept such changes or variations submitted by the **User** any dispute shall be referred to the **Independent Engineer** for determination. The **Commissioning Programme** agreed between the parties or determined by the **Independent Engineer** as the case may be shall be implemented by the parties and their sub-contractors in accordance with its terms.

| 2.11.1 If at any time prior to the **DCCW Completion Date** it is necessary for **The Company** or **The Company** in its reasonable discretion wishes to make any addition to or omission from or amendment to the **Transmission Connection Asset Works** and/or **DC Transmission Reinforcement Works** and/or the **DC One Off Works** and/or the **DC Third Party Works** **The Company** shall notify the **User** in writing of such addition, omission or amendment and Appendices [B1 (One Off Works) **Section 1**, G (**Transmission Connection Asset Works**) **Section 1**, H (**Transmission Reinforcement Works**) **Part 1** and N (**Third Party Works**) **Section 1**] to this **Construction Agreement** and consequently Appendices [A (**Transmission Connection Assets**) and B (**Connection Charges** and **One Off Charges**)] to the associated **Bilateral Connection Agreement** shall be automatically amended to reflect the change. Formatted: Font: Bold
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| 2.11.2 If at any time prior to the **WCW Completion Date** it is necessary for **The Company** or **The Company** in its reasonable discretion wishes to make any Deleted: 2
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addition to or omission from or amendment to the **Wider Transmission Reinforcement Works** and/or the **Wider One Off Works** and/or the **Wider Third Party Works** **The Company** shall notify the **User** in writing of such addition, omission or amendment and Appendices [B1 (One Off Works) Section 2, H (**Transmission Reinforcement Works**) Part 2 and N (**Third Party Works**) Section 2] to this **Construction Agreement** and consequently **Appendix B (Connection Charges and One Off Charges)** to the associated **Bilateral Connection Agreement** shall be automatically amended to reflect the change.

- 2.12 [The **User** shall apply to the Secretary of State for Trade and Industry as part of its application under Section 36 of the Act for its generating station, for deemed planning permission in relation to the substation forming part of the **Transmission Connection Asset Works**. The **User** shall use its best endeavours to procure that the said deemed planning permission is so obtained. **The Company's** obligations under Clause 2.2 of this **Construction Agreement** shall not require it to obtain planning consent for the said substation unless and until the Secretary of State for Trade and Industry shall for whatever reason refuse to deem the grant of planning permission in respect of the same. The **User** shall liaise with **The Company** as to its construction and operational requirements and shall ensure that the said application meets **The Company's** requirements. **The Company** shall provide the **User** with all information reasonably required by it in relation to the application and the **User** shall ensure that all requirements of **The Company** are incorporated in the application for deemed planning consent.]
- 2.13 [The **Transmission Reinforcement Works** are conditional on British Energy Generation Limited and/or Magnox Electric plc (as the case may be) granting approval to the carrying out of the **Construction Works** in terms of the Nuclear Site Licence Provisions Agreement being an agreement dated 30 March 1990 between The Company and Nuclear Electric plc (now called Magnox Electric plc) and an agreement dated 31 March 1996 between The Company and British Energy Generation Limited (and described as such). In the event of British Energy Generation Limited and/or Magnox Electric plc (as the case may be) not granting approval **The Company** shall be entitled to change the **Construction Works**, the **Construction Programme** and all dates specified in this **Construction Agreement**.]
- 2.14 [It is hereby agreed and declared for the purposes of the Construction (Design and Management) Regulations 1994 that the **User** is the only client in respect of the **User's Works** and **The Company** is the only client in respect of the **Construction Works** and each of the **User** and **The Company** shall accordingly discharge all the duties of clients under the said **Regulations**.]

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2.15 [The Company and the User hereby agree and acknowledge that this Construction Agreement is not to be treated as a construction contract within the meaning of section 104 of the Housing Grants, Construction and Re-generation Act 1996 and sections 104 to 113 of the said Act shall have no application either to the Construction Works or the User's Works and the parties' rights and obligations with regard to matters of dispute resolution and payment procedures are as expressly set out herein.

3.3. DELAYS

3.1 If either party shall have reason to believe that it is being delayed or will be delayed in carrying out that party's Works for any reason (whether it is one entitling it to the fixing of a new date under Clause 3.2 of this Construction Agreement or not) it shall forthwith notify the other party in writing of the circumstances giving rise to the delay and of the extent of the actual and/or anticipated delay.

| 3.2 If prior to the DCCW Completion Date and/or WCW Completion Date a party (in this Clause 3.2 "the Affected Party") shall be delayed in carrying out any of the Affected Party's Works (including their commissioning) by reason of any act, default or omission on the part of the other Party (in this Clause the "Defaulting Party") or the Defaulting Party's employees, agents, contractors or sub-contractors or by reason of an event of Force Majeure, the Affected Party shall be entitled to have such later date or dates fixed as the Commissioning Programme Commencement Date and/or (as the case may be) the DCCW Completion Date and/or WCW Completion Date as may be fair and reasonable in the circumstances provided that it shall have notified the Defaulting Party in writing of such act, default or omission or event of Force Majeure within 28 days of it becoming aware of the occurrence giving rise to the delay together with an estimate of the proposed delay which it will cause the Affected Party. In the event of a dispute between the parties over what is or are any fair and reasonable new date or dates to be fixed in the circumstances this shall be promptly referred to and determined by the Independent Engineer. Once the new date or dates are fixed the Construction Programme and/or Commissioning Programme shall be deemed automatically amended as appropriate.

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4. COMMISSIONING PROGRAMME AND LIQUIDATED DAMAGES

4.1 Each party shall give written notice to the other declaring its readiness to commence the Commissioning Programme when this is the case.

4.2 The Commissioning Programme shall commence forthwith once both parties have given written notice to the other under Clause 4.1.

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- 4.3 The **Works** shall be deemed to have been **Commissioned** on the date that the **Independent Engineer** certifies in writing to that effect.
- 4.4 In the event that the actual date of commencement of the **Commissioning Programme** is later than the **Commissioning Programme Commencement Date** **The Company** (if and to the extent that it is responsible for delayed commissioning beyond the **Commissioning Programme Commencement Date**, such responsibility and/or its extent to be determined by the **Independent Engineer** failing agreement between the parties) shall be liable to pay to the **User Liquidated Damages** for each day that the actual date of commencement of the **Commissioning Programme** is later than the **Commissioning Programme Commencement Date**. It is declared and agreed that such **Liquidated Damages** shall cease to be payable in respect of any period after the date of actual commencement of the **Commissioning Programme**.
- 4.5 In the event that the actual date on which the **DC Construction Works** are **Commissioned** is later than the **DCCW Completion Date** **The Company** (if and to the extent that it is responsible for delayed completion beyond the **DCCW Completion Date**, such responsibility and/or its extent to be determined by the **Independent Engineer** failing agreement between the parties) shall be liable to pay to the **User Liquidated Damages** for each day that the actual date on which the **DC Construction Works** are **Commissioned** is later than the **DCCW Completion Date**. It is hereby agreed and declared that such **Liquidated Damages** shall cease to be payable in respect of any period after completion of the **DC Construction Works**.
- 4.6 ~~In the event that the actual date on which the **Wider Construction Works** are completed is later than the **WCW Completion Date** **The Company** (if and to the extent that it is responsible for delayed completion beyond the **WCW Completion Date**, such responsibility and/or its extent to be determined by the **Independent Engineer** failing agreement between the parties) shall be liable to pay to the **User Liquidated Damages** for each day that the actual date on which the **Wider Construction Works** are completed is later than the **WCW Completion Date**. It is hereby agreed and declared that such **Liquidated Damages** shall cease to be payable in respect of any period after completion of the **Wider Construction Works**.~~
- 4.7 **Liquidated Damages** payable under Clauses 4.4, 4.5 and 4.6 of this **Construction Agreement** shall accumulate on a daily basis but shall be payable calendar monthly. On or before the 15th day of each month the party entitled to receive the payment of **Liquidated Damages** shall send to the other party a statement of the **Liquidated Damages** which have accrued due in the previous calendar month. The party receiving such statement shall in
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the absence of manifest error pay the **Liquidated Damages** shown on the statement within 28 days of the date upon which the statement is received.

| 4.8 Without prejudice to and in addition to the obligation of the **User** pursuant to Clause 2.4 of this **Construction Agreement**, the payment or allowance of **Liquidated Damages** pursuant to this Clause 4 shall be in full satisfaction of **The Company's** liability for failure to perform its obligations by the **Commissioning Programme Commencement Date** and/or the **DCCW Completion Date** and/or **WCW Completion Date** as appropriate.

| 4.9 In the event that the **User** shall have failed, in circumstances not entitling it to the fixing of a new date as the **Commissioning Programme Commencement Date** pursuant to Clause 3.2, to complete the **User's Works** by [] to a stage where the **User** is ready to commence the **Commissioning Programme**, **The Company** shall have the right to terminate this **Construction Agreement** upon giving notice in writing to the **User**. In the event of such termination the **User** shall in addition to the amounts for which it is liable under Clause 2.4 to this **Construction Agreement** be liable to **The Company** to pay to **The Company** a sum equal to **The Company's** estimate or revised estimate of **Final Sums**. The **User** shall pay such sums within 14 (fourteen) days of the date of **The Company's** invoice(s) therefor and on termination (where applicable) **The Company** shall disconnect the **User's Equipment** at the **Connection Site** and:

(a) the **User** shall remove any of the **User's Equipment** on, in relation to **Connection Sites** in England and Wales, **The Company's** or, in relation to **Connection Sites** in Scotland, **Relevant Transmission Licensee's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**; and

(b) in the case of **Connection Sites** in England and Wales, **The Company** shall remove and, in the case of **Connection Sites** in Scotland, **The Company** shall procure that the **Relevant Transmission Licensee** removes, any **Transmission Connection Assets** on the **User's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**.

5. APPROVAL TO CONNECT/ENERGISE/BECOME OPERATIONAL

5.1 Not later than 4 months prior to the expected **Commissioning Programme Commencement Date** or by such other time as may be agreed between the parties the parties shall prepare and submit the **Operation Diagrams**

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- required to be prepared and submitted by each of them respectively under CC 7.4.7 and 7.4.10 and likewise the **Site Common Drawings** required under CC 7.5.2 and 7.5.4 and, if necessary, **Gas Zone Diagrams** referred to in CC 7.4.9 and 7.4.12.
- 5.2 Not later than 3 months prior to the expected **Commissioning Programme Commencement Date** or by such other time as may be agreed between the parties the parties shall prepare and submit the **Operation Diagrams** required to be prepared and submitted by each of them respectively under CC 7.4.8 and 7.4.11 and likewise the **Site Common Drawings** required under CC 7.5.3 and 7.5.5.
- 5.3 Not later than 3 months prior to the expected **Commissioning Programme Commencement Date** or by such other time as may be agreed between the parties:-
- 5.3.1 each party shall submit to the other data within its possession needed to enable the completion of Appendices F3 and F4 to the **Bilateral Connection Agreement**; and
- 5.3.2 the **User** shall submit to **The Company** evidence satisfactory to **The Company** that the **User's Equipment** complies or will on completion of the **User's Works** comply with Clause 8 of this **Construction Agreement** and Paragraphs [1.3.3(b), 2.9 and 6.7] of the **CUSC**.
- 5.4 Not later than 8 weeks prior to the expected **Commissioning Programme Commencement Date** or by such other time as may be agreed between the parties each party shall submit to the other:
- 5.4.1 for the **Connection Site** information to enable preparation of **Site Responsibility Schedules** complying with the provisions of Appendix 1 to the **Connection Conditions** together with a list of managers who have been duly authorised by the **User** to sign such **Site Responsibility Schedules** on the **User's** behalf;
- 5.4.2 written confirmation as required under CC.5.2(g) that the list of **Safety Co-ordinators** are authorised and competent [and a list of persons appointed pursuant to **Grid Code** CC5.2(m)];
- 5.4.3 a list of the telephone numbers for the facsimile machines referred to in CC6.5.9.
- 5.5 If directly connected to the **GB Transmission System** not later than 3 months prior to the expected **Commissioning Programme Commencement Date** each party shall submit to the other a statement of readiness to
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complete the **Commissioning Programme** in respect of the **DC Construction Works** and **User's Works** and the statement submitted by the **User** shall in addition contain relevant **Connected Planning Data** and a report certifying to **The Company** that, to the best of the information, knowledge and belief of the **User**, all relevant **Connection Conditions** applicable to the **User** have been considered and complied with. If **The Company** considers that it is necessary, it will require this latter report to be prepared by the **Independent Engineer**. The report shall incorporate if requested by **The Company** type test reports and test certificates produced by the manufacturer showing that the **User's Equipment** meets the criteria specified in CC6.

| 5.6 If embedded not later than 3 months prior to the **DCW Completion Date** or by such other time as may be agreed between the **Parties** the **User** shall submit to **The Company** a statement of readiness to use the **GB Transmission System** together with **Connected Planning Data** and a report certifying to **The Company** that, to the best of the information, knowledge and belief of the **User**:-

- (i) all relevant **Connection Conditions** applicable to the **User** have been considered;
- (ii) CC 6 insofar as it is applicable to the **User** has been complied with; and
- (iii) the site-specific conditions set out in Appendices [F1, F3, F4] and [F5] to the **Bilateral Embedded Generation Agreement** have been complied with.

If **The Company** considers that it is necessary, it will require this report to be prepared by the **Independent Engineer**. The report shall incorporate if requested by **The Company** type test reports and test certificates produced by the manufacturer showing that the **User's Equipment** meets the criteria.

6. **INDEPENDENT ENGINEER**

The parties agree and shall procure that the **Independent Engineer** shall act as an expert and not as an arbitrator and shall decide those matters referred or reserved to him under this **Construction Agreement** by reference to **Good Industry Practice** using his skill, experience and knowledge and with regard to such other matters as the **Independent Engineer** in his sole discretion considers appropriate. All references to the **Independent Engineer** shall be made in writing by either party with notice to the other being given contemporaneously as soon as reasonably practicable and in any

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event within 14 days of the occurrence of the dispute to be referred to the **Independent Engineer**. The parties shall promptly supply the **Independent Engineer** with such documents and information as he may request when considering such question. The **Independent Engineer** shall use his best endeavours to give his decision upon the question before him as soon as possible following its referral to him. The parties shall share equally the fees and expenses of the **Independent Engineer**. The parties expressly acknowledge that submission of disputes for resolution by the **Independent Engineer** does not preclude subsequent submission of disputes for resolution by arbitration as provided for in the **Dispute Resolution Procedure**. Pending any such submission the parties shall treat the **Independent Engineer's** decision as final and binding.

7. BECOMING OPERATIONAL

7.1 If directly connected to the **GB Transmission System** **The Company** shall connect and **Energise** the **User's Equipment** at the **Connection Site** during the course of and in accordance with the **Commissioning Programme** and thereafter upon compliance by the **User** with the provisions of Clause 5 **The Company shall forthwith notify the User in writing that the Connection Site shall become Operational upon the earlier of**

(1) ~~the Construction Works excluding the Seven Year Statement Works being Commissioned and the Seven Year Statement Works and Third Party Works being completed, or~~

(2) ~~the DTEC Available Date.~~

7.2 If **Embedded** upon compliance by the **User** with the provisions of Clauses 5.1, 5.2 and 5.3 and subject, if **The Company** so requires, to the **DC Construction Works [nb in an embedded version of the construction agreement there will be no reference to transmission connection assets and so clauses definitions will need to be amended accordingly]** [and/or works for the **Modification**] being carried out and/or the **[New] Connection Site** being **Operational** (any or all as appropriate) **The Company** shall notify the **User** ("**Operational Notification**") in writing that it has the right to use the **GB Transmission System** **upon the earlier of**

(1) ~~the Construction Works excluding the Seven Year Statement Works being Commissioned and the Seven Year Statement Works and Third Party Works being completed, or~~

(2) ~~the DTEC Available Date.~~

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It is an express condition of this **Construction Agreement** that in no circumstances, will the **User** use or operate the **User's Equipment** without receiving the **Operational Notification** from **The Company**. need to amend

7.3 If, on completion of the **User's Works** in accordance with the terms of this **Construction Agreement** the **Transmission Entry Capacity** of the **User's Equipment** is less than []MW, **The Company** shall automatically have the right to amend Clause 7 and Appendix C to the **Bilateral Connection Agreement** to reflect the actual **Transmission Entry Capacity** of the **User's Equipment**. not strictly a change for this mod

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8. **COMPLIANCE WITH SITE SPECIFIC TECHNICAL CONDITIONS**

The **User** shall ensure that on the **DCCW Completion Date** the **User's Equipment** complies with the site specific technical conditions set out in Appendix F 1-5 to the **Bilateral Connection Agreement** .

9. **CREDIT REQUIREMENTS**

Alternate provisions apply depending whether or not the **User** does (9A) or does not (9B) meet **The Company's** required credit rating on signing the **Construction Agreement**. Details of the credit requirements are set out in the **CUSC**.

9A1 **PROVISION OF SECURITY**

9A.1.1 The **User** shall as soon as possible after execution of this **Construction Agreement** and in any event no later than one (1) month after the date of such execution confirm to **The Company** whether it meets **The Company Credit Rating**. Thereafter not less than 75 days before 1 April and 1 October in each year until (subject to Clause 9A.4) 28 days after the earlier of the Charging Date or the DTEC Available Date the **User** shall confirm it meets **The Company Credit Rating** to **The Company** (which in the case of a long term private credit rating shall be confirmed by Standard and Poor's or Moody's within a period of 45 days prior to the date of confirmation). The **User** shall inform **The Company** in writing forthwith if it becomes aware of ceasing to meet **The Company Credit Rating** or if it is or is likely to be put on credit watch or any similar credit surveillance procedure which may give **The Company** reasonable cause to believe that the **User** may not be able to sustain meeting **The Company Credit Rating** for at least 6 months.

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9A.1.2 In the event that the **User** has elected to provide **The Company** with an indicative credit rating and **The Company** is of the reasonable opinion that the **User** has ceased to comply with the requirements of Clause 9A.1.1 then **The Company** may require the **User** forthwith:-

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- (i) to apply to Standard and Poor's and/or Moody's for a further indicative long term private credit rating; or
- (ii) to confirm to **The Company** that it shall provide the security referred to in Clause 9A.1.4 hereof.

9A.1.3 In the event of the **User**:-

| (i) not ~~meeting~~ **The Company Credit Rating**; or Deleted: having an

- (ii) having a credit rating below **The Company Credit Rating**; or
- (iii) not having obtained from Standard and Poor's or Moody's within 30 days of the written notification under Clause 9A.1.2 above an indicative long term private credit rating,

or if **The Company** becomes aware that:

| (iv) the **User** ceases to ~~meet~~ **The Company Credit Rating**; or Deleted: have an

- (v) the **User** is put on credit watch or other similar credit surveillance procedure as specified above which may give **The Company** reasonable cause to believe that the **User** may not be able to maintain **The Company Credit Rating** for at least 6 months; or

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- (vi) the **User** has not obtained from Standard and Poor's within 30 days of the written notification by **The Company** under Clause 9A.1.2(i) above a further indicative long term private credit rating,

the **User** shall (where appropriate on receipt of written notification from **The Company**) comply with the terms of Clause 9A.1.4.

9A.1.4 The **User** shall within 21 days of the giving of a notice under Clause 9A.1.3 or within 30 days of the **User** confirming to **The Company** under Clause 9A.1.2(ii) that it will provide the security specified below (whichever is the earlier), provide **The Company** with the security specified below to cover the **User's** payment obligations to **The Company** arising in the event of, or which have arisen prior to, termination of this **Construction Agreement**. The security to be provided shall be in an amount not greater than such sums payable on termination and specified in writing by **The Company** to the **User** from time to time as appropriate. Such security shall be provided by way of:-

- (i) an irrevocable on demand standby **Letter of Credit** or guarantee; or

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- (ii) cash held in escrow [Escrow Account/ Bank Account]; or
- (iii) any other form included in **The Company's** then current policy and procedure

such letter of credit or guarantee or security to be in a form agreed in writing by **The Company** and to be given by a **Qualifying Bank**, or **Qualifying Company**. Cash deposited in [escrow] shall be deposited with a **Qualifying Bank**. The choice of such security shall be at the discretion of the **User**.

9A.1.5 The **User** shall in addition to providing the requisite security enter into an agreement with **The Company**, which shall be supplemental to this **Construction Agreement** (the "Amending Agreement"). The **Amending Agreement** shall be in such form as **The Company** shall reasonably require and shall contain such provisions in relation to the **User's** obligations to provide and maintain security as shall be consequential upon the requirement for security having arisen, in line with **The Company's** then current provisions to the like effect in its agreements with other parties. The **Amending Agreement** shall relate to the procedures required in obtaining and maintaining the security and shall not alter or amend the amount of security required in terms of this **Construction Agreement**.

9A.1.6 In the event of **The Company's** credit requirements being reviewed at any time **The Company** shall advise the **User** in writing of the new credit requirements and the **User** shall within 30 days of such notification confirm in writing to **The Company** whether it wishes to enter into an **Amending Agreement** to reflect the new credit requirements. Thereafter if the **User** has confirmed it wishes to accept the new credit requirements **The Company** and the **User** shall within 30 days of such notification enter into an **Amending Agreement**.

9A.1.7 In the event that the facts or circumstances giving rise to the obligations of the **User** to provide the security have ceased, then **The Company** shall release the security and provisions to that effect shall be included in the **Amending Agreement**.

Final Sums

9A.2 Within 60 days of the date of termination of this **Construction Agreement** **The Company** shall:

- (a) furnish the **User** with a further statement showing a revised estimate of **Final Sums** and will provide as soon as practicable evidence of such costs having been incurred; and

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(b) by written notice to the **User** inform the **User** of all capital items which cost **The Company** in excess of £10,000 and in relation to which an amount on account of **Final Sums** shall have been paid and whether **The Company** (1) wishes to retain the said capital items or (2) dispose of them.

9A.3.1 In respect of all capital items which The Company wishes to retain (other than those which have been, or are proposed to be installed as a replacement for **Transmission Plant and Transmission Apparatus**) **The Company** shall forthwith reimburse to the **User** the amount paid by the **User** on account of **Final Sums** in respect of the said capital items (including without limitation the amount paid on account of the design, purchase, installation and testing of the said capital item and also associated construction works and interest charges) together with interest calculated thereon on a daily basis from the date of termination of this **Construction Agreement** to the date of payment at **Base Rate** for the time being and from time to time provided that in the event that **The Company** wishes to retain any capital item which has been installed but wishes to remove it to storage or to another site then it shall only reimburse to the **User** the cost of the capital item and not the costs of such installation and shall deduct from any reimbursement due to the **User** the costs of removal and/or storage.

9A.3.2 In respect of all capital items which **The Company** wishes to dispose (other than those which have been, or are proposed to be installed as a replacement for **Transmission Plant and Transmission Apparatus**) it shall forthwith (and subject to **The Company** obtaining the consent of the **Authority** under Standard Condition B3 of the **Transmission Licence** if required and/or subject to any **Relevant Transmission Licensee** obtaining the consent of the **Authority** under Standard Condition B3 of its transmission licence) sell or procure the sale of the said capital item on an arms-length basis as soon as reasonably practicable. Forthwith upon receipt of the sale proceeds **The Company** shall pay to the **User** the proceeds received from any such sale together with interest thereon calculated on a daily basis from the date of termination to the date of payment at **Base Rate** for the time being and from time to time less any reasonable costs associated with the sale including the costs and expenses reasonably incurred and/or paid and/or which **The Company** is legally bound to pay on removing the capital item, any storage charges and any costs reasonably incurred by **The Company** in respect of reinstatement associated with removal of the capital item. **The Company** shall provide the **User** with reasonably sufficient evidence of all such costs and expenses having been incurred. If the **Authority** does not agree to the disposal of the capital item the capital item shall be retained by **The Company** and **The Company** shall reimburse the **User** the notional current

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market value in situ of the said capital item as between a willing buyer and a willing seller as agreed between the parties and failing agreement as determined by reference to arbitration in accordance with the **Dispute Resolution Procedure** together with interest thereon calculated on a daily basis from the date of termination of this **Construction Agreement** to the date of payment at **Base Rate** for the time being and from time to time.

9A.3.3As soon as reasonably practicable after termination of this **Construction Agreement** **The Company** shall provide the **User** with a statement of and invoice for **Final Sums** together with evidence of such costs having been incurred and/or paid and/or having been committed to be incurred. If the **Final Sums** are greater than the payments made by the **User** in respect of **The Company's** estimate(s) of **Final Sums** the **User** shall within 28 days of the said statement and invoice prepared by **The Company** pay to **The Company** the additional payments due by the **User** together with interest calculated thereon on a daily basis at **Base Rate** for the time being and from time to time from the date of previous payment(s) sums equal to **The Company's** estimate of **Final Sums** to the date of the statement of and invoice for **Final Sums**. If the **Final Sums** is less than the payments made by the **User** in respect of **The Company's** estimate of **Final Sums** paid by the **User** following termination of this **Construction Agreement** **The Company** shall forthwith pay to the **User** the excess paid together with interest on a daily basis at **Base Rate** for the time being and from time to time from the date of payment of the fair and reasonable estimate of **Final Sums** to the date of reimbursement by **The Company** of the said excess paid.

9A.4 The obligations to provide security under this Clause 9A shall continue until either all sums due under this **Construction Agreement** have been paid in full or security arrangements have been put in place by the **User** under the **Bilateral Connection Agreement** in accordance with Section 2 Part III of the **CUSC**. Until such time as the security arrangements are put in place in accordance with Section 2 Part III of the **CUSC** **The Company** shall be entitled to call upon the security put in place under the terms of this **Construction Agreement** for payment of **Termination Amounts** when due under the provisions of the **CUSC**.

Or

9B.1 Provision of Security

9B.1.1 The **User** hereby agrees that it shall forthwith upon the signing of this **Construction Agreement** provide to **The Company** or procure the provision to **The Company** of, and the **User** shall until (subject to Clause 9B.8) 28 days after the earlier of the Charging Date or DTEC Available Date (unless and

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until this **Construction Agreement** shall be terminated and all sums due or which will or might fall due in respect of which security is to be provided shall have been paid) maintain or procure that there is maintained in full force and effect (including by renewal or replacement), a security arrangement from time to time and for the time being as set out in Appendix M hereto to provide security for the **User's** obligation to pay **The Company** any and all sums specified by **The Company** in accordance with Clause 9B.2 of this **Construction Agreement** as requiring to be secured in respect of:-

- (a) the **User's** liability to pay **The Company** amounts from time to time due under Clause 2.4 of this **Construction Agreement**; and
- (b) **Final Sums**.

9B.2 Provision of **Bi-annual Estimate** and **Secured Amount Statement**

9B.2.1 **The Company** shall provide to the **User** an estimate ("the **Bi-annual Estimate**") in substantially the form set out in Part 2 of Appendix M to this **Construction Agreement** and showing the amounts of all payments required or which may be required to be made by the **User** to **The Company** in respect of **Final Sums** and **The Company Engineering Charges** and other expenses in relation to seeking **Consents** referred to in Clause 2.4 of this **Construction Agreement** at the following times and in respect of the following periods:-

- (a) forthwith on and with effect from the signing of this **Construction Agreement**, in respect of the period from and including the day of signing of this **Construction Agreement** until the next following 31st March or 30th September (whichever shall first occur); and
- (b) not less than 75 (seventy five) days (or if such day is not a Business Day the next following **Business Day**) prior to each 31st March and 30th September thereafter in respect of the period of six calendar months commencing on the immediately following 1st April or 1st October (as the case may be), until this **Construction Agreement** shall be terminated and all sums due or which will or might fall due in respect of which security is to be provided shall have been paid.

9B.2.2 Such **Bi-annual Estimate** shall be accompanied by a statement (in the form of the **Secured Amount Statement** set out in Part 3 of Appendix M to this **Construction Agreement**) ("**Secured Amount Statement**") specifying the aggregate amount to be secured at the beginning of and throughout each such period.

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9B.2.3 If **The Company** shall not provide any subsequent **Bi-annual Estimate** and **Secured Amount Statement** by the requisite date, then the **User** shall at the date it is next required to have in full force and effect security and whether by renewal or replacement or otherwise in respect of the following six calendar month period nonetheless provide security in accordance with the provisions of this **Construction Agreement** in the same amount as the amount then in force in respect of the then current six calendar month period. Notwithstanding the foregoing, if **The Company** shall provide the **User** with any **Bi-annual Estimate** and **Secured Amount Statement** later than the date specified in Clause 9B.2.1 of this **Construction Agreement**, then the following shall apply. The **User** shall within 30 (thirty) days of receipt of the said **Secured Amount Statement** procure that to the extent that the amount in respect of which security has been or is to be provided pursuant to this Clause 9B.2.3 in respect of the relevant period ("**the Secured Amount**") falls short of the amount stated in the **Secured Amount Statement** ("**the Required Amount**") the Secured Amount shall be adjusted to the **Required Amount**.

9B.3 Entitlement to Estimate

If **The Company** is (for whatever reason) unable on any relevant date to calculate precisely any sum due or which has accrued due or in respect of which the **User** has a liability to **The Company** for payment under any of the provisions of this **Construction Agreement**, **The Company** shall be entitled to invoice the **User** for a sum equal to **The Company's** fair and reasonable estimate of the sums due or which may become due or in respect of which the **User** has a liability to **The Company** for payment. **The Company** shall also be entitled to send the **User** further invoices for such sums not covered in previous invoices. The **User** shall pay **The Company** all sums so invoiced by **The Company**.

9B.4 Demands not Affected by Disputes

It is hereby agreed between **The Company** and the **User** that if there shall be any dispute between the **User** and **The Company** as to:-

9B.4.1 any amount certified by **The Company** in any **Secured Amount Statement** as requiring at any time and from time to time to be secured; or

9B.4.2 the fairness and reasonableness of **The Company's** estimate; or

9B.4.3 whether there has been an **Event of Default** (under the **Construction Agreement** or the CUSC), or

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9B.4.4 the lawfulness or otherwise of any termination or purported termination of this **Construction Agreement**

such dispute shall not affect the ability of **The Company** to make demands pursuant to the security arrangement to be provided pursuant to Clause 9B.1 of and Appendix M to this **Construction Agreement** and to recover the amount or amounts payable thereunder, it being acknowledged by the **User** that but for such being the case **The Company's** security would be illusory by reason of the period of validity of the relevant security being likely to expire or capable of expiring before the final resolution of such dispute. The **User** accordingly covenants with **The Company** that it will not take any action, whether by way of proceedings or otherwise, designed or calculated to prevent, restrict or interfere with the payment to **The Company** of any amount secured under the security arrangement nor seek nor permit nor assist others to do so.

9B.5 If there shall be any dispute as mentioned in Clause 9B.4 of this **Construction Agreement** the same shall, whether **The Company** shall have terminated this **Construction Agreement** and recovered or sought to recover payment under the security arrangement or not, and without prejudice to **The Company's** right to recover or seek to recover such payment, be referred in the case of Clauses 9B.4.1 and 9B.4.2 to the **Independent Engineer** (and, for the avoidance of doubt the provisions of this **Construction Agreement** relating to the **Independent Engineer** for the purposes of this Clause 9B.5 shall survive termination) and, in the case of Clauses 9B.4.3 and 9B.4.4 be dealt with by referral to arbitration in accordance with the **Dispute Resolution Procedure**.

Final Sums

9B.6 Within 60 days of the date of termination of this **Construction Agreement** **The Company** shall:

- (a) furnish the **User** with a further statement showing a revised estimate of **Final Sums** and will provide as soon as practicable evidence of such costs having been incurred; and
- (b) by written notice to the **User** inform the **User** of all capital items which cost **The Company** in excess of £10,000 and in relation to which an amount on account of **Final Sums** shall have been paid and whether **The Company** (1) wishes to retain the said capital items or (2) dispose of them.

9B.7.1 In respect of all capital items which **The Company** wishes to retain (other than those which have been, or are proposed to be installed as a replacement

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for **Transmission Plant and Transmission Apparatus**) **The Company** shall forthwith reimburse to the **User** the amount paid by the **User** on account of **Final Sums** in respect of the said capital items (including without limitation the amount paid on account of the design, purchase, installation and testing of the said capital item and also associated construction works and interest charges) together with interest calculated thereon on a daily basis from the date of termination of this **Construction Agreement** to the date of payment at **Base Rate** for the time being and from time to time provided that in the event that **The Company** wishes to retain any capital item which has been installed but wishes to remove it to storage or to another site then it shall only reimburse to the **User** the cost of the capital item and not the costs of such installation and shall deduct from any reimbursement due to the **User** the costs of removal and/or storage.

9B.7.2 In respect of all capital items which **The Company** wishes to dispose (other than those which have been, or are proposed to be installed as a replacement for **Transmission Plant and Transmission Apparatus**) it shall forthwith (and subject to **The Company** obtaining the consent of the **Authority** under Standard Condition B3 of the **Transmission Licence** if required and/or subject to any **Relevant Transmission Licensee** obtaining the consent of the **Authority** under Standard Condition B3 of its transmission licence) sell or procure the sale of the said capital item on an arms-length basis as soon as reasonably practicable. Forthwith upon receipt of the sale proceeds **The Company** shall pay to the **User** the proceeds received from any such sale together with interest thereon calculated on a daily basis from the date of termination to the date of payment at **Base Rate** for the time being and from time to time less any reasonable costs associated with the sale including the costs and expenses reasonably incurred and/or paid and/or which **The Company** is legally bound to pay on removing the capital item, any storage charges and any costs reasonably incurred by **The Company** in respect of reinstatement associated with removal of the capital item. **The Company** shall provide the **User** with reasonably sufficient evidence of all such costs and expenses having been incurred. If the **Authority** does not agree to the disposal of the capital item the capital item shall be retained by **The Company** and **The Company** shall reimburse the **User** the notional current market value in situ of the said capital item as between a willing buyer and a willing seller as agreed between the parties and failing agreement as determined by reference to arbitration in accordance with the **Dispute Resolution Procedure** together with interest thereon calculated on a daily basis from the date of termination of this **Construction Agreement** to the date of payment at **Base Rate** for the time being and from time to time.

9B.7.3 As soon as reasonably practicable after termination of this **Construction Agreement** **The Company** shall provide the **User** with a statement of and

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invoice for **Final Sums** together with evidence of such costs having been incurred and/or paid and/or having been committed to be incurred. If the **Final Sums** are greater than the payments made by the **User** in respect of **The Company's** estimate(s) of **Final Sums** the **User** shall within 28 days of the said statement and invoice prepared by **The Company** pay to **The Company** the additional payments due by the **User** together with interest calculated thereon on a daily basis at **Base Rate** for the time being and from time to time from the date of previous payment(s) sums equal to **The Company's** estimate of **Final Sums** to the date of the statement of and invoice for **Final Sums**.

If the **Final Sums** is less than the payments made by the **User** in respect of **The Company's** estimate of **Final Sums** paid by the **User** following termination of this **Construction Agreement** **The Company** shall forthwith pay to the **User** the excess paid together with interest on a daily basis at **Base Rate** for the time being and from time to time from the date of payment of the fair and reasonable estimate of **Final Sums** to the date of reimbursement by **The Company** of the said excess paid.

9B.8 The obligations to provide security under this Clause 9 B shall continue until either all sums due under this **Construction Agreement** have been paid in full or security arrangements have been put in place by the **User** under the **Bilateral Connection Agreement** in accordance with Section 2 Part III of the **CUSC**. Until such time as the security arrangements are put in place in accordance with Section 2 Part III of the **CUSC** **The Company** shall be entitled to call upon the security put in place under the terms of this **Construction Agreement** for payment of **Termination Amounts** where due under the provisions of the **CUSC**.

10. EVENT OF DEFAULT

As before alternate provisions apply depending whether or not the **User** does (10A) or does not (10B) meet **The Company's** required credit rating on signing this **Construction Agreement**

10A. Event of Default

Any of the following events shall constitute an **Event of Default**:-

10A.1 If the **User** fails to provide or procure that there is provided to **The Company** within the requisite time any relevant security satisfactory to **The Company**, or to enter into the **Amending Agreement** pursuant to Clauses 9A.1 or 10A.3 of this **Construction Agreement**.

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10A.2 If having entered into the **Amending Agreement** and having provided security satisfactory to **The Company** pursuant to Clauses 9A.1 and 10A.3 of this **Construction Agreement**.

- (a) The **User** thereafter fails to provide or procure that there is provided to **The Company** or at any time fails to maintain or procure that there is maintained in full force and effect the relevant security arrangement required by this **Construction Agreement** as varied by the **Amending Agreement** or to revise or renew such security with the required replacement security or to maintain or procure that there is maintained in full force and effect any such renewed, revised or substituted security as so required, or if the **User** shall otherwise be in breach of any of its obligations in respect of security under this **Construction Agreement** as varied by the **Amending Agreement**;
- (b) The **User** or any shareholder (whether direct or indirect) of the **User** or any other party who may at any time be providing security to **The Company** pursuant to the requirements of this **Construction Agreement** as varied by the **Amending Agreement** takes any action whether by way of proceedings or otherwise designed or calculated to prevent, restrict or interfere with the payment to **The Company** of any amount so secured whether or not there shall be a dispute between the parties;
- (c) Any party who may at any time be providing security to **The Company** pursuant to the provisions of this **Construction Agreement** as varied by the **Amending Agreement** fails to pay to **The Company** any sum demanded pursuant thereto.

10A.3 If

- (i) There is a material adverse change in the financial condition of the **User** such as to give **The Company** reasonable grounds for concluding that there is a substantial probability that the **User** will default in the payment of any sums due or to become due to **The Company** within the next following period of twelve (12) months in terms of or on termination of this **Construction Agreement**; or
- (ii) an event of default has occurred under any banking arrangements (as such may be more particularly described in the **Bilateral Connection Agreement**) (an event of default being any event described as such in the banking arrangements) put in place by the **User** in connection with a project for which security under this Clause 10A is required by **The Company** and as a result the banks who are party to such banking

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arrangement have taken steps to declare the principle of the advances under such arrangement immediately due and payable; or

- (iii) any other indebtedness of the **User** for the repayment of borrowed money (in a principal outstanding amount of not less than £1,000,000 pounds sterling or such greater amount specified in the **Bilateral Connection Agreement**) has become due and payable prior to the stated date of maturity thereof by reason of any default or breach on the part of the **User** and the amount in question has not been paid by the **User** or refinanced within a period of 28 days following the date upon which it was so declared due and payable

and in (i) or (ii) or (iii) the **User** fails, within a period of 7 (seven) days following the date on which **The Company** gives the **User** notice in writing of one or other of the above events occurring to provide **The Company** with such security as **The Company** shall require to cover the **User's** payment obligations to **The Company** arising in the event of or which have arisen prior to termination of this **Construction Agreement** and which arise under this **Construction Agreement**. The security to be provided shall be in a form satisfactory to **The Company** in accordance with its then current policy and procedures and in such amount as **The Company** shall specify to the **User** in the aforesaid notice. The **User** shall if required by **The Company**, in addition to providing the requisite security, within a period of 30 days following the date on which **The Company** gives the **User** such notice enter into an **Amending Agreement**. Such **Amending Agreement** shall contain such provisions in relation to the **User's** obligations to provide and maintain security as shall be consequential upon the requirement for security having arisen and shall be in such form as **The Company** shall reasonably require in line with **The Company's** then current provisions to the like effect in its connection agreements with other parties.

Provided that (in relation to paragraphs (i) or (ii) or (iii) above) if at anytime after the putting in place of security under Clause 10A.3 the **User** shall produce to **The Company** evidence to **The Company's** reasonable satisfaction that there is not a substantial probability of the **User** not being able to make payment to **The Company** of such sums within the next following period of twelve (12) months, **The Company** shall not require the **User** to provide the aforesaid security and shall release any such security then in place. This waiver is without prejudice to **The Company's** right to require security at any time thereafter in the event of any of the circumstances set out in paragraph (i) and/or (ii), and/or (iii) subsequently occurring.

10A.4 Any of the **Events of Default** in Paragraph 5.3.1 of the CUSC have occurred and are occurring.

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Or

10B **Event of Default**Any of the following events shall constitute an **Event of Default**:-

10B.1 If

- (i) an event of default has occurred under any banking arrangements (as such may be more particularly described in the **Bilateral Connection Agreement**) (an event of default being any event described as such in the banking arrangements) put in place by the **User** in connection with a project for which security under this Clause 10B is required by **The Company** and as a result the banks who are party to such banking arrangement have taken steps to declare the principle of the advances under such arrangement immediately due and payable; or
- (ii) there is a material adverse change in the financial condition of the **User** such as to give **The Company** reasonable grounds for concluding that there is a substantial probability that the **User** will default in the payment of any unsecured sum due or to become due to **The Company** within the next following period of 12 (twelve) months in terms of or on termination of this **Construction Agreement**;
- (iii) any other indebtedness of the **User** for the repayment of borrowed money (in a principal amount of not less than £1,000,000 pounds sterling or such greater amount specified in the **Bilateral Connection Agreement**) has become due and payable prior to the stated date of maturity thereof by reason of any default or breach on the part of the **User** and the amount in question has not been paid by the **User** or refinanced within a period of 28 days following the date upon which it was so declared due and payable

and in either (i) or (ii) or (iii) the **User** fails:-

- (1) within a period of 14 (fourteen) days following the date on which **The Company** gives notice of such circumstances to provide to **The Company** a cash deposit in a **Bank Account**, a **Performance Bond** or **Letter of Credit** (as defined in Appendix M) in favour of **The Company** and **Valid** (as defined in Appendix M) at least up to the last day of the **Financial Year** in which the event occurs for such amount representing **The Company's** reasonable estimate of all unsecured sums to become due to **The Company** in the period up to the end of

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the **Financial Year** in which the event occurs such sum to be specified in the said notice; or

- (2) to subsequently provide such cash deposit or renew such **Performance Bond** or **Letter of Credit** (or such renewed **Performance Bond** or **Letter of Credit** provided under this paragraph) not less than 45 days prior to its stated expiry date for such amount representing **The Company's** reasonable estimate of the unsecured sums to become due to **The Company** in the next following **Financial Year** valid at least up to the last day of the next following **Financial Year** and to continue the provision of cash deposit a **Performance Bond** or **Letter of Credit** in a similar manner, to such estimate of unsecured sums.

Provided that regarding (i) or (ii) or (iii) if at any time after the putting in place of security under this Clause 10B.1 the **User** shall provide to **The Company** evidence to **The Company's** reasonable satisfaction that there is not a substantial probability of the **User** being unable to make payment to **The Company** of any unsecured sums within the next following period of twelve (12) months, **The Company** shall not require the **User** to provide the aforesaid security and shall release any such security then in place. This waiver is without prejudice to **The Company's** right to return security at any time thereafter in the event of any of the circumstances set out in paragraph (i) and/or (ii) and/or (iii) in this Clause 10B.1 subsequently occurring.

- 10B.2 If the **User** fails to provide or procure that there is provided to **The Company** or at any time fails to maintain or procure that there is maintained in full force and effect the relevant security arrangement required under Clauses 9B.1 or 10B.1 of and Appendix M to this **Construction Agreement** or to renew or revise such security or to substitute any security with the required replacement security or to maintain or procure that there is maintained in full force and effect any such renewed, revised or substituted security as so required or if the **User** is otherwise in breach of any of its obligations under Appendix M to this **Construction Agreement**.
- 10B.3 If the **User** or any shareholder (whether direct or indirect) of the **User** takes any action whether by way of proceedings or otherwise designed or calculated to prevent restrict or interfere with the payment to **The Company** of any amount so secured or seeks or permits or assists others to do so, whether or not there shall be a dispute between the parties.
- 10B.4 If any party who may at any time be providing or holding security in favour of **The Company** pursuant to Clauses 9B.1 or 10B.1 of and Appendix M to this

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Construction Agreement fails to pay **The Company** any sum demanded in any Notice of Drawing (as defined in Appendix M) pursuant thereto.

10B.5 Any of the **Events of Default** in Paragraph 5.3.1 of the **CUSC** have occurred and are occurring.

11. TERMINATION ON EVENT OF DEFAULT

11.1 Once an **Event of Default** pursuant to Clause 10 has occurred and is continuing **The Company** may give notice of termination to the **User** whereupon this **Construction Agreement** shall forthwith terminate and **The Company** shall disconnect all the **User's Equipment** at the **Connection Site** and:

(a) the **User** shall remove any of the **User's Equipment** on, in relation to **Connection Sites** in England and Wales, **The Company's** or, in relation to **Connection Sites** in Scotland, **Relevant Transmission Licensee's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**; and

(b) in the case of **Connection Sites** in England and Wales, **The Company** shall remove and, in the case of **Connection Sites** in Scotland, **The Company** shall procure that the **Relevant Transmission Licensee** removes, any **Transmission Connection Assets** on the **User's** land within 6 months of the date of termination or such longer period as may be agreed between **The Company** or the **Relevant Transmission Licensee** (as appropriate) and the **User**.

11.2 The **User** shall (notwithstanding any longer time for payment which but for such termination the **User** may have for payment pursuant to this **Construction Agreement**) within 14 days from the date of termination pay to **The Company** all amounts already due and owing on the date this **Construction Agreement** so terminates and if this **Construction Agreement** terminates prior to the earlier of the Charging Date or DTEC Available Date the **User** shall be liable forthwith on the date this **Construction Agreement** so terminates to pay to **The Company**:-

(1) a sum equal to all liabilities arising under Clause 2.4 of this **Construction Agreement** which have not yet been invoiced by **The Company** to the **User**; and Deleted: 2
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(2) a sum equal to **The Company's** fair and reasonable estimate of **Final Sums**,

such payments in each case to be made within 14 days of the date of **The Company's** invoice(s) in respect thereof subject to adjustment in respect of **The Company's** estimate of **Final Sums** in accordance with Clause 9A.3.3. or 9B.7.3.

12. TERM

12.1 Subject to the provisions for earlier termination set out in the **CUSC** this **Construction Agreement** shall continue until terminated in accordance with Clause 2.5, 2.6, 4.8 or 11 hereof.

12.2 In addition this **Construction Agreement** shall terminate upon termination of the associated **Bilateral Connection Agreement** and in the event that this is prior to the earlier of the Charging Date or DTEC Available Date the **User** shall in addition to the amounts for which it is liable under Clause 2.4 hereof be liable to pay to **The Company Final Sums** and the provisions of Clause 11 shall apply. Formatted: Font: Not Bold

12.3 The associated [**Bilateral Connection Agreements** or **Agreement to Vary the Bilateral Connection Agreement**] will automatically terminate upon termination of this **Construction Agreement** prior to the earlier of the Charging Date or DTEC Available Date.

12.4 Any provisions for payment shall survive termination of this Construction Agreement.

13. CUSC

The provisions of Sections 6.6 (Payment), 6.14 (Transfer and Subcontracting), 6.15 (Confidentiality), 6.18 (Intellectual Property), 6.19 (Force Majeure), 6.24 (Counterparts), 6.20 (Waiver), 6.21 (Notices), 6.22 (Third party Rights), 6.23 (Jurisdiction), 6.25 (Governing Law), 6.26 (Severance of Terms), 6.27 (Language) inclusive of the **CUSC** shall apply to this **Construction Agreement** as if set out in this **Construction Agreement**.

14. DISPUTES

Except as specifically provided for in this **Construction Agreement** any dispute arising under the terms of this **Construction Agreement** shall be referred to arbitration in accordance with the **Dispute Resolution Procedure**.

15. VARIATIONS

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- 15.1 Subject to Clause 15.2 and 15.3 below, no variation to this **Construction Agreement** shall be effective unless made in writing and signed by or on behalf of both **The Company** and the **User**.
- 15.2 **The Company** and the **User** shall effect any amendment required to be made to this **Construction Agreement** by the **Authority** as a result of a change in the **CUSC** or the **Transmission Licence**, an order or direction made pursuant to the **Act** or a **Licence**, or as a result of settling any of the terms hereof. The **User** hereby authorises and instructs **The Company** to make any such amendment on its behalf and undertakes not to withdraw, qualify or revoke such authority or instruction at any time.
- 15.3 **The Company** has the right to vary Appendices in accordance with Clauses 2.3 and 2.11 and Paragraph 6.9 of the **CUSC**.

| **IN WITNESS WHEREOF** the hands of the duly authorised representatives of the parties hereto at the date first above written

SIGNED BY)
 [name])
 for and on behalf of)
 National Grid Electricity Transmission plc)

SIGNED BY)
 [name])
 for and on behalf of)
 [User])

Deleted: 16. RESTRICTIVE TRADE PRACTICES ACT ¶
 . Any restriction or information provision (as each of those terms are defined or construed in Section 43(1) of the Restrictive Trade Practices Act 1976) contained in this Construction Agreement shall not take effect or shall cease to have effect: ¶
 (a) if a copy of this Construction Agreement is not provided to the Department of Trade and Industry ("DTI") within 28 days of the date of this Construction Agreement; or ¶
 (b) if, within 28 days of the provision of that copy to the DTI, the DTI gives notice of objection to the party providing it. ¶

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APPENDIX [J]
CONSTRUCTION PROGRAMME

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APPENDIX [H]

TRANSMISSION REINFORCEMENT WORKS

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APPENDIX [L]

INDEPENDENT ENGINEER

Company:

Connection site:

Type: _____

The Independent Engineer will be a Member of the Association of Consulting Engineers (ACE) and shall be agreed between the parties within 120 days of execution of this Construction Agreement or such other period as may be agreed between the parties. Failing agreement it shall be referred to the President of the Institution of Electrical Engineers who shall nominate the Independent Engineer.

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APPENDIX [K]

LIQUIDATED DAMAGES

Company:

Connection site:

Type:

The amount of Liquidated Damages payable by The Company to the User pursuant to this Construction Agreement shall be:

Liquidated Damages under Clause [4] of this Construction Agreement shall be calculated on a daily basis at a rate of £XXXXX per week subject to the limit that the total Liquidated Damages payable by The Company to the User under this Clause shall not exceed £XXXXX.

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APPENDIX [G]
TRANSMISSION CONNECTION ASSET WORKS

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APPENDIX [M]

PART 1

SECURITY ARRANGEMENT

1. **DEFINITIONS**

In this Appendix M, the following terms have the meanings set out next to them:-

"Bi-annual Estimate" means an estimate pursuant to Clause [9B.2.1] of this Construction Agreement of all payments to be made or which may be required to be made by the User in any relevant period, such estimate to be substantially in the form set out in Part 2 of this Appendix M;

"Bank Account" means a separately designated bank account in the name of The Company at such branch of Barclays Bank PLC, or such branch of any other bank, in the City of London as is notified by The Company to the User, bearing interest from (and including) the date of deposit of principal sums to (but excluding) the date of withdrawal of principal sums from such account, mandated for withdrawal of principal solely by The Company against delivery of a Notice of Drawing for the amount demanded therein and mandated for the transfer of any interest accrued to the Bank Account to such bank account as the User may specify;

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"Letter of Credit"	means an irrevocable standby letter of credit in a form reasonably satisfactory to The Company but in any case expressed to be governed by the Uniform Customs and Practice for Documentary Credits 1993 Revision ICC Publication No. 500 or such other form as may be reasonably satisfactory to The Company and allowing for partial drawings and providing for the payment to The Company on demand forthwith on and against The Company's delivery to the issuer thereof of a Notice of Drawing of the amount demanded therein;
"Notice of Drawing"	means a notice of drawing signed by or on behalf of The Company substantially in the form set out in Part 4 of this Appendix M;
"Performance Bond"	means an on first demand without proof or conditions irrevocable performance bond or performance guarantee executed as a deed in a form reasonably satisfactory to The Company but in any case allowing for partial drawings and providing for the payment to The Company on demand forthwith on and against The Company's delivery to the issuer thereof of a Notice of Drawing of the amount demanded therein;
"Qualified Bank"	means a City of London branch of a bank, its successors and assigns, which has throughout the validity period of the Performance Bond or Letter of
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Credit it issues in favour of The Company, a rating of at least A- in Standard and Poor's long term debt rating or A3 in Moody's long term debt rating provided that such bank is not during such validity period put on any credit watch or any similar credit surveillance which gives The Company reasonable cause to doubt that such bank may not be able to maintain the aforesaid rating throughout the validity period and no other event has occurred which gives The Company reasonable cause to have such doubt;

"Qualified Company"

means a company which is a public company or a private company within the meaning of S.1(3) of the Companies Act 1985 and which is either a shareholder of the User or any holding company of such shareholder (the expression holding company having the meaning assigned thereto by Section 736, Companies Act 1985 as supplemented by Section 144(3), Companies Act 1989) and which has throughout the validity period of the Performance Bond it gives in favour of The Company, a rating of at least A- in Standard and Poor's long term debt rating or A3 in Moody's long term debt rating or such lesser rating which The Company may in its absolute discretion allow by prior written notice given pursuant to a resolution of its board of directors for such period and on such terms as such resolution may specify provided that such company is not during such validity period put

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	on any credit watch or any similar credit surveillance procedure which gives The Company reasonable cause to doubt that such company may not be able to maintain the aforesaid rating throughout the validity period of the Performance Bond and no other event has occurred which gives The Company reasonable cause to have such doubt;
"Secured Amount Statement"	means a statement accompanying the Bi-annual Estimate setting out the amount of the User's Obligation based on figures contained in the Bi-annual Estimate being the amount for which security shall be provided to The Company pursuant to Clause 9B of this Construction Agreement;
"User's Obligation"	means the User's obligation to pay under this Construction Agreement:-
	<ul style="list-style-type: none"> (i) all amounts in respect of which the User has a liability to pay to The Company pursuant to Clause 2.4 of this Construction Agreement Agreement; (ii) Final Sum
"Valid"	means valid for payment to be made thereunder against delivery of a Notice of Drawing given within the period stated therein.

2. **SECURITY REQUIREMENT**

The User's Obligation shall be secured by any one of the following:-

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- 2.1 A Performance Bond or Letter of Credit from a Qualified Bank for the amount stated in the Secured Amount Statement as the estimated amount of the User's Obligation to be secured, such Performance Bond or Letter of Credit to be Valid for at least the period stated in such Secured Amount Statement and to be renewed periodically where applicable in the manner stated in paragraph 3.3 of this Appendix M; or
- 2.2 A cash deposit in a Bank Account at least for the amount stated in the Secured Amount Statement as the estimated amount of the User's Obligation to be secured, such cash deposit to be increased or reduced periodically where applicable in the manner stated in paragraph 3.4 of this Appendix M; or
- 2.3 A Performance Bond from a Qualified Company for the amount stated in the Secured Amount Statement as the estimated amount of the User's Obligation to be secured, such Performance Bond to be Valid for at least the period stated in such Secured Amount Statement and to be renewed periodically where applicable in the manner stated in paragraph 3.3 of this Appendix M.

3. **GENERAL PROVISIONS**

- 3.1 Any Notice of Drawing to be delivered to Barclays Bank PLC or any other bank at which the Bank Account shall have been opened or a Qualified Bank or a Qualified Company may be delivered by hand, by post or by facsimile transmission.
- 3.2 If the User becomes aware that the bank issuing the Performance Bond or Letter of Credit ceases to be a Qualified Bank or that the

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company giving the Performance Bond ceases to be a Qualified Company, the User shall so notify The Company in writing as soon as it becomes so aware. If The Company becomes aware that the bank issuing the Performance Bond or Letter of Credit ceases to be a Qualified Bank or that the company giving the Performance Bond ceases to be a Qualified Company, The Company may notify the User to that effect in writing. Where the bank or the company so ceases to be either a Qualified Bank or a Qualified Company (as the case may be) as a consequence of The Company having reasonable cause to doubt the continued rating of the said bank or company, such notice shall be accompanied by a statement setting out The Company's reasons for having such doubt. The User shall within 21 days of the giving of such notice by The Company or the User whichever is the earlier provide a replacement Performance Bond and/or Letter of Credit from a Qualified Bank or Qualified Company, as the case may be, and/or provide a cash deposit in the required amount in a Bank Account. From the date the replacement Performance Bond or Letter of Credit or Bank Account cash deposit is effectively and unconditionally provided and Valid, The Company will consent in writing to the security which it replaces being released.

3.3 The following provisions shall govern the issuance, renewal and release of the Performance Bond or Letter of Credit:-

3.3.1 The Performance Bond or Letter of Credit shall be Valid initially from the signing of this Construction Agreement at least to and including the following 31st March or 30th September whichever is the earlier date. Such Performance Bond or Letter of Credit shall be for an amount not less than that stated in the Secured Amount Statement as the amount

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of the User's Obligation to be secured during the period specified in the Secured Amount Statement.

3.3.2 On a date which is at least 45 days (or if such day is not a Business Day then on the immediately preceding Business Day) before the next following 31st March or 30th September whichever is the earlier date such Performance Bond or Letter of Credit shall be renewed so as to be Valid for not less than 6 months commencing from the immediately following 1st April or 1st October (as the case may be). Such renewed Performance Bond or Letter of Credit shall be for an amount not less than the amount of the User's Obligation stated in the Secured Amount Statement as the amount to be secured during the period that such renewed Performance Bond or Letter of Credit shall be Valid.

3.3.3 Thereafter, the renewed Performance Bond or Letter of Credit shall be further renewed in like manner every 6 months.

3.4 The following provisions shall govern the maintenance of cash deposits in the Bank Account:-

3.4.1 The amount of the cash deposit to be maintained in the Bank Account shall be maintained from the date of this Construction Agreement at least to and including the following 31st March or 30th September, whichever is the earlier date. Such cash deposit shall be in an amount as stated in the Secured Amount Statement as the amount of the User's Obligation to be secured during the period stated in the Secured Amount Statement.

3.4.2 If the amount stated in the Secured Amount Statement as the amount of the User's Obligation to be secured from the following 1st April to Deleted: 2
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30th September or from the following 1st October to 31st March (as the case may be) is an amount greater than the amount then secured, the cash deposit in the Bank Account shall be increased to such greater amount on a date which is 45 days before the following 31st March or 30th September (as the case may be) which immediately precedes the commencement of the relevant above mentioned period.

3.4.3 If such amount stated in the Secured Amount Statement is smaller than the amount then secured, the cash deposit in the Bank Account shall not be reduced to the amount so stated until the expiry of 7 days after the next following 31st March or 30th September (as the case may be) ("the Release Date").

3.4.4 The sum equal to the amount of reduction in the cash deposit in the Bank Account shall be paid by The Company to the User from the Bank Account on the Release Date.

3.4.5 Any interest accruing to the Bank Account shall be for the account of and belong to the User absolutely, and The Company agrees to take any steps required to be taken by it for the release from the Bank Account and payment to the User of such interest as soon as the same shall have been credited to the Bank Account and The Company shall have received notice of such credit.

3.5 Notwithstanding any provision aforesaid:-

3.5.1 The User may provide different securities to The Company at any one time, each securing a different amount, provided that the aggregate amount secured by such securities shall be not less than the

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aggregate amount required to be secured pursuant to the Secured Amount Statement for any period specified therein.

3.5.2 The User may upon the expiry of at least 14 days prior written notice to The Company, substitute one type of security for another provided that unless The Company shall otherwise agree in writing such substituted security must be Valid from 1st April or 1st October (as the case may be) and committed at least 45 days before the immediately preceding 31st March or 30th September (as the case may be) in the following manner:-

- (a) where a Performance Bond or a Letter of Credit is to substitute for other securities, it must be issued or given at least 45 days before such immediately preceding 31st March or 30th September (as the case may be).
- (b) where a cash deposit in a Bank Account is to substitute for other securities, it must be deposited into the Bank Account at least 45 days before such immediately preceding 31st March or 30th September (as the case may be).

3.5.3 Upon request by the User to The Company, securities substituted in the aforesaid manner shall, providing the substitute security shall be Valid, be released on the following 1st April or 1st October (as the case may be). However, where the amount required by the Secured Amount Statement to be secured for any period is less than the amount required to be secured in the preceding period, the substituted security shall not be released until 7 days after the then following 31st March or 30th September (as the case may be).

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PART 2

BI-ANNUAL ESTIMATE FOR CONSTRUCTION AGREEMENT
DATED []

Amount due and amount which will
or might fall due for the period
commencing on and including
[] and ending on and
including [] in
respect of which security is
required

1. The Company Engineering Charges & expenses for obtaining Consents pursuant to Clause 2.4
2. Final Sums
- [3. One Off Charge]

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PART 3

SECURED AMOUNT STATEMENT

CONSTRUCTION AGREEMENT DATED []

Amount in which security is
required for the period
commencing on and including
[] and ending on and
including []

User's Obligation

We hereby certify that the amount to be secured in respect of the User's Obligation
is as stated above in respect of the named period.

for and on behalf of
NATIONAL GRID ELECTRICITY TRANSMISSION PLC

Duly authorised officer

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PART 4
NOTICE OF DRAWING

To [] Bank/Public Limited Company/Limited

copy to:

[date]

Dear Sirs,

RE: CONSTRUCTION AGREEMENT DATED []
PERFORMANCE BOND NO./DATED []/LETTER OF CREDIT NO.
[]/BANK ACCOUNT NO. [] ("THE SECURITY")

We refer to the above Security in our favour. We hereby demand immediate payment thereunder in the amount of £[].

We require payment to be made by telegraphic transfer to:-

Bank plc

Address:

Sort Code:

Account Name: National Grid Electricity Transmission plc

Account No:

Yours faithfully,

for and on behalf of
NATIONAL GRID ELECTRICITY TRANSMISSION PLC

Duly authorised officer

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APPENDIX [N]
THIRD PARTY WORKS

END OF SCHEDULE 2 EXHIBIT 3

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Annex 2.6 - CUSC Schedule 2 Exhibit 2 (Bilateral Embedded Generation Agreement - REGO Power Station)

Add the following as new Exhibit 2(B) and renumber existing Exhibit as 2(A) and amend **CUSC** contents page accordingly

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SCHEDULE 2 - EXHIBIT 2B

DATED []

NATIONAL GRID ELECTRICITY TRANSMISSION PLC (1)

and

[] (2)

THE CONNECTION AND USE OF SYSTEM CODE

BILATERAL EMBEDDED GENERATION AGREEMENT (REGO USER)

[USE OF SYSTEM FOR AN EMBEDDED POWER STATION]

[USE OF SYSTEM FOR A SMALL POWER STATION TRADING PARTY]

At []

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Reference:[]

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CONTENTS

- 1. Definitions, Interpretation and Construction
- 2. Commencement
- 3. The Site of Connection to the Distribution System
- 4. Charging Date
- 5. Use of System
- 6. Credit Requirements
- 7. Entry Access Capacity
- 8. Compliance with Site Specific Technical Conditions
- 9. Term
- 10. Variations
- 11. **Operational Notification**
- 12. General Provisions

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- Appendix A The Site of Connection
- Appendix B Charges and Payment
- Appendix C **DTEC and** Transmission Entry Capacity
- Appendix F1 Site Specific Technical Conditions – Balancing Services
- Appendix F2 [Not Used]
- Appendix F3 Site Specific Technical Conditions - Special Automatic Facilities
- Appendix F4 Site Specific Technical Conditions Protection and Control Relay Settings, Fault Clearance Times
- Appendix F5 Site Specific Technical Conditions - Other

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THIS BILATERAL EMBEDDED GENERATION AGREEMENT is made on the [] day of [] 200[].

BETWEEN

- (1) National Grid Electricity Transmission plc a company registered in England with number 2366977 whose registered office is at 1-3 Strand, London, WC2N 5EH ("The Company", which expression shall include its successors and/or permitted assigns); and
- (2) [] a company registered in [] with number [] whose registered office is at [] ("User", which expression shall include its successors and/or permitted assigns).

WHEREAS

- (A) Pursuant to the **Transmission Licence**, **The Company** is required to prepare a Connection and Use of System Code (**CUSC**) setting out the terms of the arrangements for connection to and use of the **GB Transmission System** and the provision of certain **Balancing Services**.
- (B) The **User** has applied for use of the **GB Transmission System** and pursuant to the **Transmission Licence** **The Company** is required to offer terms for use of system.
- (C) The **User** has applied for use of the **GB Transmission System** in the capacity of [] as set out in Paragraph 1.2.4 of the **CUSC**. The Power Station is a REGO Power Station.
- (D) As at the date hereof, **The Company** and the **User** are parties to the **CUSC Framework Agreement** (being an agreement by which the **CUSC** is made contractually binding between the parties). This **Bilateral Embedded Generation Agreement** is entered into pursuant to the **CUSC** and shall be read as being governed by it.

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NOW IT IS HEREBY AGREED as follows:

1. DEFINITIONS, INTERPRETATION AND CONSTRUCTION

Unless the subject matter or context otherwise requires or is inconsistent therewith, terms and expressions defined in Section 9 of the **CUSC** have the same meanings, interpretations or constructions in this **Bilateral Embedded Generation Agreement** and the following terms and expressions shall have the meaning set out below:-

"Construction Agreement" the agreement made between the parties of even date for the carrying out of construction works.

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6. CREDIT REQUIREMENTS

[The amount to be secured by the **User** from [date] is set out in the **Secured Amount Statement** issued from time to time and as varied from time to time in accordance with Section 3 of the CUSC.]

7. ENTRY ACCESS CAPACITY

7.1 The **DTEC and Transmission Entry Capacity** of [each of the] site[s] of **Connection** are, and their values, for the purposes of Paragraph 3.2 of the CUSC are specified in Appendix C.

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7.2 Appendix C Part 3 will set out the **BM Unit Identifiers** of the **BM Units** registered at the **Connection Site** under the **Balancing and Settlement Code**. The **User** will provide **The Company** will the information needed to complete details of these **BM Unit Identifiers** as soon as practicable after the date hereof and thereafter in association with any request to modify the **Transmission Entry Capacity** and **The Company** shall prepare and issue a revised Appendix C incorporating this information. The **User** shall notify **The Company** prior to any alteration in the **BM Unit Identifiers** and **The Company** shall prepare and issue a revised Appendix C incorporating this information.

7.3 **The Company** shall monitor the **Users** compliance with its obligation relating to **DTEC and Transmission Entry Capacity** against the sum of metered volumes of the **BM Units** set out in Part 3 of Appendix C and submitted by the **User** for each **Settlement Period**.

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8. COMPLIANCE WITH SITE SPECIFIC TECHNICAL CONDITIONS

The site specific technical conditions applying to [each of] the site[s] of **Connection** are set out in Appendices F1 to F5 to this **Bilateral Embedded Generation Agreement** as modified from time to time in accordance with Paragraph 6.9 of the CUSC.

9. TERM

Subject to the provisions for earlier termination set out in the CUSC, this **Bilateral Embedded Generation Agreement** shall continue until all of the **User's** equipment [or **Equipment** for which the **User** is responsible (as defined in Section K of the **Balancing and Settlement Code**] is **Disconnected** from the relevant **Distribution System** at the site[s] of **Connection** as provided in Section 5 of the CUSC.

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10. VARIATIONS

10.1 Subject to 10.2 and 10.3, no variation to this **Bilateral Embedded Generation Agreement** shall be effective unless made in writing and signed by or on behalf of both **The Company** and the **User**.

10.2 **The Company** and the **User** shall effect any amendment required to be made to this **Bilateral Embedded Generation Agreement** by the **Authority** as a result of a change in the **CUSC** or the **Transmission Licence**, an order or direction made pursuant to the **Act** or a **Licence**, or as a result of settling any of the terms hereof. The **User** hereby authorises and instructs **The Company** to make any such amendment on its behalf and undertakes not to withdraw, qualify or revoke such authority or instruction at any time.

10.3 **The Company** has the right to vary Appendix B in accordance with this **Bilateral Embedded Generation Agreement** and the **CUSC** including any variation necessary to enable **The Company** to charge in accordance with the **Charging Statements** or upon any change to the **Charging Statements**.

11. OPERATIONAL NOTIFICATION

Notwithstanding the provisions of CUSC Paragraph 3.6.2 the operational notification for the purposes of the right to use the GB Transmission System and the requirements before it is issued are as provided for in Clause [7] of the Construction Agreement .

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Deleted: Any restriction or information provision (as each of those terms are defined or construed in Section 43(1) of the Restrictive Trade Practices Act 1976) contained in this **Bilateral Embedded Generation Agreement** shall not take effect or shall cease to have effect: ~~¶~~ if a copy of this **Bilateral Embedded Generation Agreement** is not provided to the Department of Trade and Industry (DTI) within 28 days of the date of this **Bilateral Embedded Generation Agreement**; or ~~¶~~ if, within 28 days of the provision of that copy to the DTI, the DTI gives notice of objection to the party providing it.

12. GENERAL PROVISIONS

Paragraph 6.10 and Paragraphs 6.12 to 6.26 of the **CUSC** are incorporated into this **Bilateral Embedded Generation Agreement mutatis mutandis**.

IN WITNESS WHEREOF the hands of the duly authorised representatives of the parties hereto at the date first above written

SIGNED BY)
[name])
for and on behalf of)
National Grid Electricity Transmission plc)

SIGNED BY)
[name])
for and on behalf of)

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[User])

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APPENDIX A
THE SITE OF CONNECTION

1. SITE[s] OF CONNECTION

Company

:

Site[s] of Connection :

Owner[s] / Operator[s] of Distribution System:

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APPENDIX B
CHARGES AND PAYMENT

Company :

Site of Connection:

1. PART 1: ONE-OFF CHARGES
2. PART 2: MISCELLANEOUS CHARGE(S)

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APPENDIX C

TRANSMISSION ENTRY CAPACITY

Part 1 Transmission Entry Capacity

Transmission Entry Capacity (TEC) expressed in average MW taken over a half hour settlement period

Power Station	TEC(MW)
[]	[]

Part 2 DTEC

DTEC expressed in average MW taken over a half hour settlement period

Power Station	DTEC(MW)
[]	[]

Part 3 BM Units comprising Power Station

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- E_BMU 1 (Associated with Genset 1)
- E_BMU 2 (Associated with Genset 2)
- E_BMU 3 (Associated with Genset 3)
- E_BMU 4 (Associated with Genset 4)
- E_BMU SD-1 (Station Demand) if applicable
- E_BMU AD-1 (Additional Trading Site Demand) if applicable

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APPENDIX F1
SITE SPECIFIC TECHNICAL CONDITIONS:
AGREED BALANCING SERVICES

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APPENDIX F2

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APPENDIX F2

SITE SPECIFIC TECHNICAL CONDITIONS:

SPECIAL AUTOMATIC FACILITIES

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APPENDIX F3
SITE SPECIFIC TECHNICAL CONDITIONS: PROTECTION
AND CONTROL RELAY SETTINGS
FAULT CLEARANCE TIMES

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APPENDIX F4

SITE SPECIFIC TECHNICAL CONDITIONS:

OTHER

END OF SCHEDULE 2 - EXHIBIT 2

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End of ANNEX2

ANNEX 3 – AMENDMENT PROPOSAL FORM

CUSC Amendment Proposal Form	CAP:148
<i>Title of Amendment Proposal: Deemed Access Rights to the GB Transmission System for Renewable Generators</i>	
<i>Description of the Proposed Amendment (mandatory by proposer):</i>	
<p>This Amendment Proposal will prioritise the use of the GB Transmission System by renewable generators, in accordance with the Renewables Directive 2001/77, Article 7.</p> <p>Renewable generators will be given firm access to the GB Transmission System up to their CEC limit by a fixed date and be compensated to the extent they are constrained from exercising such right by the payment of a new category of Interruption Payment. This will be irrespective of whether or not any associated deep reinforcement works have been constructed and/or commissioned by such date. The Amendment Proposal achieves this by the introduction of Deemed Transmission Entry Capacity (“DTEC”), as described below.</p> <p>DTEC will only apply to such portion of a User’s output that is generated from renewable sources, as defined by the Electricity (Guarantees of Origin of Electricity Produced from Renewable Sources) Regulations 2003.</p> <p>The key elements of the Amendment Proposal are as follows:</p> <ul style="list-style-type: none"> (a) under its Connection Agreement(s), a renewable generator will be deemed to have DTEC on the earlier of (1) the date by which NGET can deliver Transmission Entry Capacity (“TEC”); or (2) three years after the later of: (i) the date on which the generator obtains its project planning consents; or (ii) the date on which it accepts a Connection Offer from NGET, subject in both cases (1) and (2) to a local connection having been consented and commissioned: such date being the “DTEC Completion Date”; (b) for renewable generators, the concept of TEC will be abolished and replaced by DTEC, which will apply on a permanent basis. NGET will not be obliged to carry out deep reinforcement works in order to guarantee firm access if it considers it to be more economic to make constrained payments but this will not override the provisions of (a)(1) above; (c) in the event that NGET has to constrain generators as a consequence of the GB Transmission System being unable to meet the usage requirements of generators with TEC (including STTEC and LDTEC) and DTEC then it shall be contractually obliged to pay compensation for associated losses; (d) the additional category of Interruption Payment will be funded through NGET’s regulated income from Transmission Network Use of System Demand Charges (“TNUoS Charges”); and (e) NGET shall be obliged to constrain conventional generators off the GB Transmission System, where technically possible, rather than constrain off renewable generators. 	

Description of Issue or Defect that Proposed Amendment seeks to Address (mandatory by proposer):

- 1 **Current industry regulations treat all new generation as incremental rather than replacement generation, requiring applicants for connections to wait for system upgrades to accommodate this additional power. This is not in line with Government intentions which envisage renewable generation as primarily replacement generation.**
- 2 **Many forms of renewable energy are intermittent and infrequently require use of their maximum permitted TEC. This amendment, by enabling NGET to have a higher level of control of use of the GB Transmission System, permits a more economically efficient judgement to be made about the need for system upgrades than is possible under the current regulations.**
- 3 **This amendment will permit renewable energy to come to market faster than is possible under the current regulations, supporting the achievement of Government targets for reduction in carbon emissions and OFGEM's secondary objectives under the Electricity Act 1989 Section 3A(5)(c)¹¹ of (amongst other things) securing a diverse and viable long-term energy supply, and in doing so having regard to the effect on the environment of activities connected with the generation, transmission, distribution or supply of electricity.**
- 4 **This amendment will remove the timing problems of matching the obtaining and implementation of planning consents for renewable generation projects with the availability of connection dates. This problem has recently been exacerbated by the reduction in validity of planning consents in Scotland from 5 years to 3 years in the Planning etc. (Scotland) Act 2006.**
- 5 **This amendment better promotes Government objectives for the growth in renewable generation by utilising the provisions of Article 7 of the EU Directive 2001/77/EC of 21 September 2001 which allow for Member States to provide priority access to the grid system of electricity produced from renewable energy sources.**

Impact on the CUSC

Please refer to Annex I at page 6.

Impact on Core Industry Documentation (*this should be given where possible*):

Amendments required to the System Operator - Transmission Owner Code (the "STC")

The STC will have to be amended to reflect the Shallow Connection Works regime as set out below.

- (a) **Section D Part Two which sets out the provisions for the development of Construction Offers and the carrying out of Construction Projects (including the information to be exchanged between a Transmission Owner and NGET as set out in the STC), will have to be amended to include the Shallow Connection Works regime.**
- (b) **Schedule 5 will have to be amended to include a requirement that NGET in its Connection application provides the Transmission Owner with any details of the DTEC of the new Connection Site.**

Other Core Industry Documents

¹¹ As substituted by the Utilities Act 2000 Section 13.

Please refer to Annex II at page 8 for a list of other industry / regulatory documents that will need to be changed in order to implement the Amendment Proposal.
Impact on Computer Systems and Processes used by CUSC Parties (<i>this should be given where possible</i>):
Details of any Related Modifications to Other Industry Codes (<i>where known</i>):
<i>Justification for Proposed Amendment with Reference to Applicable CUSC Objectives**</i> (mandatory by proposer):
<p>1 <i>The Proposer believes that the proposed amendment better facilitates Applicable CUSC Objective (a) (the efficient discharge by the licensee of the obligations imposed upon it under the Act and by [Transmission Licence]) as follows:</i></p> <ul style="list-style-type: none"> <i>(a) by introducing into the CUSC a regime whereby a Generator that generates electricity from a renewable source is granted access rights to the GB Transmission System within a guaranteed period, the Amendment Proposal would remove the inefficiencies created by the current queuing system for Connection to the GB Transmission System which presently can permit projects without planning consent to potentially have earlier connection dates to transmission than consented projects with later queue positions;</i> <i>(b) by granting the GBSO the option to pay compensation to generators rather than invest to build new transmission assets which may not be economically justified, taking all issues into account, the Amendment Proposal permits a more economic investment analysis to be undertaken; and</i> <i>(c) by allowing the GBSO the flexibility to more efficiently utilise transmission assets that are contractually assigned to low load fossil fuel peaking plant type generators through the present grant of TEC.</i> <p>2 <i>The Proposer believes that the proposed amendment better facilitates Applicable CUSC Objective (b) (facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity) as follows:</i></p> <ul style="list-style-type: none"> <i>(a) by providing greater certainty for renewable generators than under the current system set out in the CUSC, as new parties seeking Connection to the GB Transmission System would be granted a firm date by which access rights can be provided (whilst at the same time, recognising the issues faced by the NGET, for example obtaining the appropriate Consents for local connections to existing infrastructure). Furthermore, OFGEM has stated (in the context of access to the GB Transmission System in respect of all generation) that: "other things being equal, greater certainty for new parties seeking connection to the network over (a) the date by which access rights can be provided (recognising practical constraints, such as the need for consents, faced by the transmission companies) and, (b) the level of financial commitment required to be provided, might be expected to promote competition."¹²;</i> <i>(b) the amendment allows supply companies to have access to greater volumes of renewable generation earlier than would otherwise be the case, permitting them to better meet their obligations for percentage supply from renewables;</i> <i>(c) the amendment removes a potentially discriminatory element of the CUSC whereby intermittent generators are presently treated in the same manner as</i>

¹² OFGEM letter dated 9 May 2006: Access Reform in Electricity Transmission - Working Group Report and Next Steps.

conventional generators in grants of TEC.

Details of Proposer: Organisation's Name:	Mike Davies Wind Energy (Forse) Limited
<i>Capacity in which the Amendment is being proposed:</i> (i.e. CUSC Party, BSC Party or "energywatch")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	
Attachments: YES If Yes, Title and No. of pages of each Attachment: Annex I - Impact on the CUSC pages 6 to 7; and Annex II - Impact on other industry / regulatory documents pages 8 to 9.	

Notes:

Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.

The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

The completed form should be returned to:

Beverley Viney
Panel Secretary
Commercial Frameworks
National Grid
National Grid House
Warwick Technology Park

Gallows Hill
Warwick
CV34 6DA

Or via e-mail to: Beverley.Viney@uk.ngrid.com

(Participants submitting this form by email will need to send a statement to the effect that the proposer acknowledges that on acceptance of the proposal for consideration by the Amendments Panel, a proposer which is not a CUSC Party shall grant a licence in accordance with Paragraph 8.15.7 of the CUSC. A Proposer that is a CUSC Party shall be deemed to have granted this Licence).

Applicable CUSC Objectives** - These are defined within the National Grid Company Transmission Licence under Section C7F, paragraph 15. Reference should be made to this section when considering a proposed amendment.

ANNEX I (to original CUSC proposal)

CUSC AMENDMENT PROPOSAL - Deemed Access Rights to the GB Transmission System for Renewable Generators

Impact on the CUSC

This Annex I sets out the impact of the Amendment Proposal on the CUSC and identifies the following:

- 1.1 the changes that will need to be made to the CUSC (including the underlying rationale);
- 1.2 the sections of the CUSC that will need to be changed in order to implement the Amendment Proposal; and
- 1.3 (where it has been possible to provide at this stage) the suggested legal text drafting changes required in order to implement the Amendment Proposal.

DTEC regime

Section 2 of CUSC

Section 2 of CUSC should be amended by including a new section setting out the framework for the DTEC introduced by the implementation of the Amendment Proposal. This section will provide as follows:

- 2.1 a User that has applied for connection to the GB Transmission System shall be granted DTEC in accordance with the terms of its Construction and Connection Agreements;
- 2.2 following the Commissioning of its Shallow Connection the User will be entitled to have physical access to the GB Transmission System in accordance with the terms of its Connection Agreement;
- 2.3 the DTEC shall cover that proportion of a User's output that is, or is expected to be, generated from renewable sources. In determining whether the electricity generated is from a renewable source, the definition for "renewable energy sources" as set out in the Electricity (Guarantees of Origin of Electricity Produced from Renewable Sources) Regulations 2003, shall apply.

3 Interruption Payments

Section 5.10 of CUSC will need to be amended to specify that Interruption Payments apply (in place of any compensation under the Balancing and Settlement Code) where the Relevant Interruption is as a result of a constraint in the system as opposed to short-term balancing actions.

4 New definitions

Section 11 of CUSC

Section 11 of CUSC would have to be amended by the addition of definitions covering the matters set out below. Where it has been possible to do so, the suggested draft new definitions have been provided. (This list is not exhaustive and it may be necessary to add more definitions when the Amendment Proposal is assessed).

- 4.1 **"DTEC"** means the Deemed Transmission Entry Capacity set out in Appendix []. Existing renewable generators with TEC should keep it rather than switch to DTEC.
- 4.2 **"DTEC Completion Date"** means the date three years after the User accepts the Connection Offer or obtains its Planning Consents, whichever is the later.
- 4.3 **"Deemed BSUoS Charges"** means a reasonable estimate of Total BSUoS Charges that would have been incurred in respect of the BM Unit of a renewable generator had the BM Unit Metered Volume been equal to the DTEC.
- 4.4 **"Deemed TNUoS Charges"** means a reasonable estimate of The Company's costs in providing Transmission Network Services to the renewable generator had it been exporting the DTEC on to the GB Transmission System.
- 4.5 The definition of **"Interruption"** will need to be amended to apply in circumstances where The Company constrains off a generator and not solely as a result of Deenergisation.
- 4.6 The definition of a **"Interruption Payment"** will need to be amended to include payments:

to a renewable generator, where the renewable generator is unable to use its DTEC; and

to a conventional generator where it has been constrained off the system in favour of a renewable generator.

The methodology for payment would be based upon lost revenues (including, for renewable generators, the value of ROCs, recycle payments and LECs) less avoided costs.

- 4.7 **"Renewable Generator"** means [•].

Note: For the purposes of this Amendment Proposal a new definition is required for Planning Consents, which would be narrower than the current definition of Consents. The renewable generator would have a right to the grant of DTEC no later than 3 years from the date of the grant of planning permission. Note that the grant of planning permission will always be subject to the completion of the "s106¹³" Agreement.

¹³ Section 106 Town and Country Planning Act 1991. In Scotland the equivalent provision is Section 75 Town and Country Planning (Scotland) Act 1997.

5 Schedule 2 Exhibit 1 (the Connection Agreement)

The standard form Connection Agreement will have to be amended reflect the principles of this Amendment Proposal.

6 Schedule 2 Exhibit 3 (the Construction Agreement)

The standard form Construction Agreement will have to be amended to reflect the principles of the Amendment Proposal.

DTEC should, ideally, be tradeable per CAP 68, e.g. if one project has DTEC and another is still in its three year period of waiting for a connection.

Annex II (to original CUSC proposal)**CUSC Amendment Proposal - Deemed Access Rights to the Transmission System for Renewable Generators****1 Impact on other industry / regulatory documents**

The following documents are not Core Industry Documents and their amendment is outside the scope of this Amendment Proposal. However, if the Amendment Proposal is implemented these documents will need to be amended. Accordingly, this Annex II sets out the suggested amendments.

2 Amendments required to NGET's transmission connection charging / use of system charging methodologies**2.1 The Statement of the Use of System Charging Methodology****2.1.1 Generators are required to pay NGET, among other things, TNUoS Charges. TNUoS Charges are comprised of the following:**

- (a) the costs NGET incurs through the Generator's use of the GB Transmission System (other than sole use assets); and
- (b) an element that reflects the residual costs that NGET incurs in respect of all Generators' use of the GB Transmission System.

2.1.2 This does not allow for a Generator exercising DTEC to be charged for the use it would have made of the GB Transmission System. The Statement for the Use of System Charging Methodology will therefore, have to be amended to allow NGET to charge renewable generators that are exercising DTEC (or part of such rights) Deemed TNUoS Charges and Deemed BSUoS Charges.

2.2 The Statement of the Use of System Charges

There may be changes to the numbers set out in this as a consequence of any changes to the Statement of the Use of System Charging Methodology.

3 Amendments to Transmission Licences**3.1 Special Condition AA5 of NGET's Transmission Licence****3.1.1 Special Condition AA5 of the Transmission Licence sets out among other things the formula for calculating the maximum amount of transmission revenue that NGET is allowed to recover in any year from transmission charges, and needs to be amended to include the following:**

- (a) a separate formula that would calculate the maximum allowable revenue that NGET can recover from transmission charges with an adjustment for the new category of Interruption Payments that are made to renewable generators; and
- (b) the information to be provided by NGET to the Authority, for example the total number of renewable generators who have

exercised their entitlement to DTEC and the total sum of Interruption Payments made in a year to those renewable generators.

- (c) a separate formula that would calculate the maximum allowable revenue that NGET can recover from transmission charges with an adjustment for the new category of Interruption Payments that are made to conventional generators together with provisions covering information provision to the Authority in relation to the Interruption Payments.

3.2 Condition C17 of the Transmission Licence and Condition D3 of the Scottish Transmission Licensees' Licences

3.2.1 The Grid Code Planning Code (PC) 6.1 requires that NGET is to apply the Licence Standards: "relevant to planning and development in the planning and development of the Transmission System." The Licence Standards are defined in the Grid Code as Conditions C17 of the Transmission Licence and D3 of the Relevant Licensee's Transmission Licence.

3.2.2 Condition C17 of NGET's licence and Condition D3 of the Scottish Transmission Licensees' Licences respectively, require that the (relevant) licensee is to plan develop and operate the licensee's transmission system (and, in the case of NGET) to co-ordinate and direct the flow of electricity on to the GB Transmission System) in accordance with the following:

- (a) the GB Security and Quality of Supply Standard version 1 (the "**GB SQSS**");
- (b) the STC; and
- (c) any other standard of planning approved by the Authority.

In order to implement the Proposal, NGET, SP and SSE would have to obtain derogations from complying with GB SQSS. NGET would need to apply to the Authority for a derogation from its Transmission Licence requirement to comply with the Grid Code (P.C.6.1).

End of ANNEX3

ANNEX 4 - REPRESENTATIONS RECEIVED DURING CONSULTATION

This Annex includes copies of any representations received following circulation of the Consultation Document (circulated on **28 September 2007**, requesting comments by close of business on **26 October 2007**).

Representations were received from the following parties:

No.	Company	File Number
1	RWE	CAP148-CR-01
2	Carron Energy ('Carron')	CAP148-CR-02
3	Scottish Renewables	CAP148-CR-03
4	Immingham CHP	CAP148-CR-04
5	Renewable Energy Systems Group ('RES')	CAP148-CR-05
6	ScottishPower Energy Wholesale ('Scottish Power')	CAP148-CR-06
7	Combined Heat and Power Association ('CHPA')	CAP148-CR-07
8	British Energy	CAP148-CR-08
9	EdF Energy	CAP148-CR-09
10	Centrica	CAP148-CR-10
11	BWEA	CAP148-CR-11
12	Wind Energy Services ('WES')	CAP148-CR-12
13	E.ON UK	CAP148-CR-13
14	Late submission- Scottish and Southern Energy plc ('SSE')	CAP148-CR-14
15	Late submission- Highlands and Islands Enterprise ('HIE')	CAP148-CR-15

Reference	CAP148-CR-01
Company	RWE

RWE Trading



Beverly Viney
Amendments Panel secretary
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Name Bill Reed
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17th October 2007

E-mail: beverley.viney@uk.ngrid.com

CUSC Amendment Proposal CAP148 Deemed Access to the GB Transmission System for Renewable Generators - RWE Consultation Response

Dear Beverley,

Thank you for the opportunity to comment on the CAP148 Consultation. This response is provided on behalf of the RWE group of companies include RWE Trading and RWE npower.

RWE agrees with the view expressed by National Grid and the Working Group that neither the original amendment proposal nor any of the alternative proposals better meet the CUSC objectives. Allowing certain users to connect to the transmission system prior to the completion of the wider reinforcement of the transmission system will result in inefficient management of the transmission system arising from increased constraints (CUSC Objective a). Increased constraints will result in significant costs for all users while benefiting only those users who are able to advance their connection date (i.e. a cross subsidy). This will have a detrimental impact on competition (CUSC Objective b).

CAP 148 raises a number of wider issues in relation to whether the proposal will enable the Government's target for the generation of electricity from renewable sources to be met or whether the discrimination implied by the proposal is acceptable. We believe that the arguments in favour of implementing the proposal in this context are finely balanced. Option 4AX (i.e. construction agreements remain as now with relief for planning issues and a 4-year lead time for completion of the wider works) may represent an appropriate balance of risk for new renewable users, existing users, the system operator and transmission owners. In particular we believe that the 4-year lead time for wider works, subject to relief for planning issues, should enable the transmission owners to complete the works required for connection of renewable projects. Consequently, the 4AX approach should mitigate concerns expressed by National Grid in relation to charging and the price control regarding funding for new investment. We would support implementation of Alternative 4AX if the concerns identified in the assessment under the CUSC objectives could be satisfactorily addressed.

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We do not support the implementation of alternative amendments based on a shorter lead time (3-years) and/or without the relief for planning issues since we believe that they increase the risk that National Grid and the transmission owners would be unable to deliver the required infrastructure in time. This could result in a significant increase in the cost of constraints. Furthermore, we note that National Grid consider that these costs should be reflected back on the parties that cause them and that such a charge could have a significant detrimental impact on renewable schemes.

If you wish to discuss any aspect of our response, please do not hesitate to contact me.

Yours sincerely

By email

Bill Reed,
Market Development Manager

Reference	CAP148-CR-02
Company	Carron Energy



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26th October 2007

Dear Ms Viney

CAP148: Deemed Access Rights to the GB Transmission System for Renewable Generators

Carron Energy (Carron) is the owner of Uskmouth Power, Haven Power and Severn Power. Carron welcomes the opportunity to comment on the consultation document of CUSC amendment proposal CAP148. Carron continues to support the principle of finding solutions that facilitate timely access onto the transmission system for both renewable and conventional generation, and are sympathetic to those prospective users who received connection dates well into the future. Developers of both renewable and conventional generation have incurred difficulties in securing connection to the GB transmission system, since the implementation of BETTA in April 2005. However, Carron does not support proposal CAP148 due to its introduction of discrimination through seeking to prioritise use of the GB transmission system by renewable generators.

The proposal, ensuring new renewable generators are given commercially firm access to the transmission system by a fixed date, regardless of the commissioning or not of any associated wider system reinforcement, has implications for the economic and efficient operation of the system:

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- In the event of constraints arising on the transmission system, National Grid would be obligated to constrain existing generators before Deemed Transmission Entry Capacity (DTEC) eligible renewable generators, creating additional costs of operating the system. Working around the renewables plant may increase transmission costs beyond the costs incurred by the renewables plant.
- Transmission Entry Capacity (TEC) generators are likely to also incur higher operating costs due to accommodating the unpredictable running pattern of its plant as a consequence of being constrained down and off to facilitate DTEC generators. Increasing flexibility will increase costs for some plant, as well as add to maintenance issues and potentially reliability can be affected. Taking plants on and off out of merit order will raise prices.
- The rights awarded to DTEC generators will also impact cash-out prices. As well as calling generators to manage transmission issues, NG will also potentially have to balance the system with more expensive plant. This may be due to increasing the amount of unreliable generation, requiring more reserve is held, or as a result of locational issues.

Overall the result of these factors will be to increase system operating costs associated with managing the transmission system and increase energy prices due to the greater costs incurred by generators in ensuring plant reliability against increasing enforced flexibility; customers will see prices rise. Further more, the customers will effectively be forced to pay for more expensive generation in the form of renewable power, potentially above the renewables obligation requirements. There may be a good case for increasing renewable output and many customers demand green power, but the general impact on prices is likely to be higher than simply the costs of the renewable power itself.

Carron believe it is inefficient to place more renewable generation onto a transmission system that is unable to accommodate the greater volume of generation, only to constrain off the generation of conventional plants. It is unlikely that NG can create a charging structure that fully reflects the costs associated with the proposed modification.

This proposal has the potential of introducing detrimental, adverse effects upon competition amongst generators within the electricity industry, thus affecting consumer prices. In the longer term, unless the TOs can find away to deliver more capacity quicker, renewables projects may be built on the back of finance underpinned by SO payments to non-generating kit; encouraging stranded assets.

Carron acknowledge the Renewables Directive 2001/77, Article 7; however believe that any amendments made through new transmission access products being introduced to CUSC needs to ensure that there is no undue discrimination between different generators, in particular, between different technologies and different

regions. CAP148 proposes to introduce discrimination under the CUSC in favour of new (DTEC) renewable generation projects which would be offered different and more advantageous connection arrangements when compared with other TEC generation projects. Where new investment has occurred against a background of firm connection rights, were these rights to be removed the regulatory risks for new investment will increase the costs of new build at a time when the UK needs new investment in generation.

The transmission access regime should not be used as a means for promoting renewable generation onto the transmission system at the detriment of more viable projects that may happen to be conventional generation, thus impacting the economic and efficient operation of the network. We note that the work of the Short Term Transmission Access Group has highlighted areas where other changes may make it easier for some generators to connect. This work should be pursued.

In the meantime, we believe the only practical way to encourage new renewables plant is to increase the timescales and costs associated with new generation connections for all plants. Any changes that undermine the principles of firm transmission access will be detrimental not only to the efficiency of system operation today, but also to system development for the longer term.

Carron do not believe that the case presented for discriminated created by CAP148 has been justified in the context of the CUSC objectives or Ofgem's duties to protect the interests of customers and therefore do not support the original nor any of the alternatives when compared with the current baseline.

Yours sincerely,



Rebecca Williams
Head of Trading

Reference	CAP148-CR-03
Company	Scottish Renewables



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29 October 2007

Dear Ms Viney

Scottish Renewables Response: CUSC Amendment Proposal CAP148

Many thanks for the opportunity to respond to the National Grid Electricity Transmission (NGET) CUSC Amendment Proposal, CAP148.

Scottish Renewables supports CAP148 (Deemed TEC) as it promotes the more rapid deployment of renewable electricity generation. Despite environmental issues relating to climate change not being a CUSC Objective, CAP148 helps to align the code better with UK Government Energy Policy and the EU Renewables Directive.

Scottish Renewables is the trade body for the industry in Scotland and we have nearly 220 members involved in the renewable energy sector, many of which have a direct interest in electricity network issues. Scottish Renewables also benefits from the support of its Grid & Regulation Work Group, made up from the members of Scottish Renewables.

Needless to say, if you have need for clarification on any of the issues we raise please get in touch.

Scottish Renewables would like to express its appreciation for the effort that NGET and the CUSC Working Group has put into considering this issue and its recognition that change to the transmission networks, as proposed by CAP148 are worthwhile for consideration.

Scotland, and the development of renewable electricity projects, is key to the delivery of the Renewables Obligation and the UK's commitment to significantly cutting carbon emissions. These projects also have a significant role in the development of Scotland's economy and in particular 'local' or rural economies where otherwise vulnerable communities see an opportunity in renewables to reverse population decline and tackle fuel poverty through its



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development. Therefore, given the environmental and economic benefits, any identified obstacles to the development of this industry should be tackled quickly and any potential opportunities delivered in a similarly timely manner.

Scottish Renewables recently published a report on grid issues in Scotland called *Making Connections*. *Making Connections*¹ called for new thinking and reform of the way networks are managed. Whilst we are concerned that the CAP process may not be best suited to delivering fundamental reform of transmission access arrangements we do accept that the CAP process is one way to affect that change.

The CUSC Working Group considered a number of issues with regard to CAP148 and we would like to comment on these in turn:

Eligibility

Scottish Renewables supports the proposal that eligibility for DTEC should be extended to all generators which hold Renewable Energy Guarantee of Origin certificates (REGOs) for 100% of their output. This is option 4 in the matrix of options.

Risk

Scottish Renewables supports the proposal that National Grid should have no relief for delays arising from obtaining Planning permissions for wider works. This is option B in the matrix of options.

Lead times

Scottish Renewables believes that it is important that connections be guaranteed in a timescale that is consistent with the validity of planning permissions with projects typically ready to build 12 to 18 months after receiving a resolution to consent from a determining authority. National Grid and other users of the transmission network can have confidence that these projects will proceed to connection. However this certainty is fundamentally undermined if the guaranteed connection date should fall beyond the validity of the planning consents (typically three years to five years after final consent in Scotland)

Scottish Renewables therefore supports the proposal that transmission access be provided in 36 months. This is option Y in the matrix of options.

Charging of Costs

In addition to the consideration of CAP148 by the Work Group, NGET have indicated that any additional costs borne by it would be allocated to generators with DTEC.

In Clause 12 of the Consultation Document it states:

National Grid has indicated that it would seek to treat DTEC as an additional service and charge for that service accordingly (subject to it being an efficient option). This would involve charging DTEC users the additional operational costs incurred.

¹ You can download a copy of *Making Connections* from our website www.scottishrenewables.com.

If these additional costs are imposed it may negate any benefits that may have otherwise been achieved by CAP148. This must be avoided.

The starting point for the NGET position appears to be that the status quo is an appropriate position to benchmark CAP148 against. The current regime benefits incumbents because new connections are deemed to have a network impact and therefore those who are currently using networks should be compensated for that.

Scottish Renewables therefore supports the intention of CAP148 that DTEC holders pay the same TNUoS and BSUoS as would be charged to an equivalent generator with TEC.

Summary

CAP148 provides the electricity industry an opportunity to support renewable electricity generation by promoting early deployment of renewable electricity projects without posing such a risk to the stability, reliability and cost of running GB's transmission network.

CAP143 was a previous industry attempt to promote positive change in the use of transmission networks which was opposed by NGET. It is unfortunate that NGET again has failed to find it appropriate to support another positive attempt at promoting renewable electricity generation through CAP148.

Scottish Renewables has made strong representations to the Transmission Access Review project team about the powerful influence that incumbents have over the management of the codes and regulations that govern networks across GB.

There is an opportunity for change with CAP148 and we call on NGET and Ofgem to promote that positive reform.

Yours sincerely



Jason Ormiston
Chief Executive
Scottish Renewables

Reference	CAP148-CR-04
Company	Immingham CHP

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CAP 148—Consultation document

Immingham CHP supports the basic concept behind CAP 148, which targets the promotion of low-carbon generation. However we consider the original amendment contemplated by the proposer is discriminatory in its treatment of low-carbon technologies other than renewables and support WGAA 3BX.

Our preferred option envisages the availability of DTEC to new low-carbon operators whose emissions fall below a defined level. It would result in faster market penetration by low-carbon energy across the board, and not just renewables. This in turn should contribute to the earlier achievement of important policy targets that ultimately underpin regulation and governance of the sector. It will also enhance competition because it will stimulate new investment and entry at a faster rate than would otherwise occur.

WGAA 3BX is better than the Cusc baseline and has merit because it:

furthering objective (b) of the Cusc applicable objectives

- should lead to greater diversity in technologies and provide stronger incentives to low-carbon technologies in particular;
- better promotes low-carbon technologies including cogeneration because of priority access to the grid, also supporting objective (b);
- reduces risk of stranded assets for developers, reducing development risk, which could also have beneficial competitive side-effects;
- acknowledges the disproportionate associated losses that arises for CHP operators where they are instructed off the system before other higher emitting technologies (and which are acknowledged at section 4.64 of the report), which we believe is discriminatory.

realising benefits under objective (a)

- because of the more certain process, could increase the volume efficiency of the use of the network and its planning, which would also enable National Grid to efficiently discharge its licence obligations;
- sharpens incentives on transmission owners to build transmission assets sooner, enhancing efficient system operation; and
- by incorporating a fixed development window, reduces exposure to any additional constraint costs, giving a more equitable balance of risk between developers and the transmission operators.

The consultation specifically addresses questions of due and undue discrimination. ICHP strongly believes that approval of the alternative based on option 3, and particularly option 3BX, does not give rise to undue discrimination. This is because the difference in treatment—in this case between the differential availability of TEC and DTEC—would be objectively justified. Further there are real and sufficient differences in terms of the carbon output of generators such as new CHP operators who would qualify for DTEC to justify a particular difference in treatment. It is more economic and efficient for generators that do not emit carbon to have grid access than for carbon emitting generators when the environmental costs associated with higher carbon emissions are taken into account. As a consequence given the similarities between renewables and CHP in terms of low carbon intensity that cogeneration would be unduly discriminated against under the original CAP148 formulation.

We would expect to see this amendment proposal be the subject of a regulatory impact assessment by Ofgem. We firmly anticipate that any increased constraint costs would be more than offset by carbon savings and wider policy benefits that will arise.

Please let me know if I can provide anything further comments.

Kirsten Elliott-Smith
Immingham CHP LLP

Reference	CAP148-CR-05
Company	Renewable Energy Systems Group ('RES')



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18 October 2007

Beverly Viney
Amendments Panel Secretary
Electricity Codes

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Our Ref: EN01-000101

Dear Beverly,

RES response to the consultation on CAP148

Renewable Energy Systems Group ("RES") is a leading UK based developer of renewable energy projects. A wholly owned subsidiary of Sir Robert McAlpine Ltd, RES has developed and constructed over 1500MW of wind energy projects worldwide with a further 1100MW currently under construction. In 1992 RES developed the UK's second wind farm at Carland cross in Cornwall. RES has developed and constructed 100MW in the UK and has a UK portfolio of over 1000MW in various stages of development.

RES welcomes the opportunity to respond to the consultation on CUSC amendment proposal 148: Deemed Access to the GB Transmission System for Renewable Generators.

Summary

- RES supports options 4,B, and Y for the introduction of DTEC
- RES believes that charges for DTEC should be the same as for TEC
- RES does not support any proposal to target charges to holders of DTEC

Introduction

RES supports CAP148 and the introduction of Deemed TEC (DTEC). We believe that it is a positive way to provide timely connections for new renewable generation and will provide a valuable contribution towards achievement of the government's renewable targets.

Alternatives

RES notes that this consultation paper reflects the working group approach in that the various alternatives were defined in respect of three key criteria of Eligibility; Force majeure risk; and Lead time.

Eligibility

RES supports the proposal that eligibility for DTEC should be extended to all generators which hold Renewable Energy Guarantee of Origin certificates (REGOs) for 100% of their output. This is option 4 in the matrix of options.

Force majeure risk

RES supports the proposal that National Grid should have no relief for delays

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A member of the Sir Robert McAlpine Group

EN01-000101

arising from obtaining Planning permissions for wider works. This is option B in the matrix of options.

Lead time

RES believes that it is important that connections be guaranteed in a timescale that is consistent with the validity of planning permissions. It will be of benefit all for applications for grid connection to be made by generators which have obtained planning consents and reached financial close on their projects. This is typically achieved 12 to 18 months after receipt of planning consents. National Grid and other users of the transmission network can have confidence that these projects will proceed to connection. However this certainty is fundamentally undermined if the guaranteed connection date should fall beyond the validity of the planning consents.

RES therefore supports the proposal that transmission access be provided in 36 months. This is option Y in the matrix of options.

Additional comments

Charging of costs

Despite being outside of the remit of the CUSC amendment process, RES notes that NGET has already announced an intention to target any "additional operational costs" to users of DTEC. Their position appears to be that to do otherwise creates a cross-subsidy to holders of DTEC from all other users of the transmission system and would introduce discrimination. RES believes that this position is misguided for the following reasons

- Discrimination – The existing access arrangements create a barrier to entry for new generation. It is already accepted that barriers to entry are discriminatory and counter to the regulatory objective of facilitation of competition. CAP148 would reduce the overall levels of discrimination.
- New players vs incumbents – NGET's position can only be justified if one accepts that the status quo is an appropriate benchmark. This implies that the current operational costs associated with existing generators are appropriate and should be borne by all parties. It further implies if new generators should be connected that some element of operational costs should be allocated in a different manner. This concept discriminates in favour of existing generation and is inappropriate.
- Identification of additional costs – All operational decisions of the system operator change the overall levels of costs to be paid by network users, but most, if not all, operational actions satisfy a number of requirements. For example, instructions to generators to reduce generation when the market is long will simultaneously provide an amount of generation reserve. The system operator is, rightly, incentivised to minimise total costs. However it is not possible to accurately identify specific volumes of costs to specific actions.
- Quantification of additional costs – RES notes that NGC proposes to allocate an element of "additional operational costs" to DTEC holders on the presumption that these "additional" costs are borne by other parties. However operational costs are only one element of the costs faced by network users. RES notes that NGC has no proposals to credit DTEC holders with any reductions to other users. For example the increased TNUoS charging base will result in reductions in TNUoS charges for existing generators and the additional competition in the energy market will result in lower wholesale prices. NGET's proposals to direct only one element of the perceived "additional" costs will create discrimination against DTEC holders
- Definition of cross subsidy – It is not clear why NGET believes that CAP148 will introduce a cross subsidy. Operational costs will be borne by all network users (including DTEC holders). Should operational costs increase, the additional monies would flow to the providers of the additional

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balancing services (including any constraints) that NGET chooses to contract with. No monies will flow to DTEC holders which will not be subsidised.

RES therefore supports the intention of CAP148 that DTEC holders pay the same TNUoS and BSUoS as would be charged to an equivalent generator with TEC.

We would be happy to discuss further any element of our response. My details are set out at the top of this letter. Alternatively please contact our UK Grid Connections Manager, Richard Ford. Richard can be contacted at richard.ford@res-ltd.com or by phone on 01923 299374.

Yours sincerely,

Andy Paine

CC: File

Reference	CAP148-CR-06
Company	ScottishPower Energy Wholesale ('Scottish Power')

Beverley Viney
Amendments Panel Secretary
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26 October 2007

0141 568 3113

Dear Beverley,

CAP148 Deemed Transmission Access for Renewable Generators – Consultation

Thank you for the opportunity to respond to this consultation document. This response is submitted on behalf of ScottishPower Energy Wholesale, which includes the UK energy businesses of ScottishPower, namely ScottishPower Energy Management Ltd, ScottishPower Generation Ltd and ScottishPower Renewable Energy Ltd.

Background

We note the recent approval of CAP142 (Temporary TEC Exchanges) and the work of the Transmission Access Standing Group and are of the view that this represents the first steps towards facilitating new transmission entry products that will provide earlier access and increased utilisation of the GB Transmission System. Early connections help earlier achievement of the Government's renewables and climate change emission reduction targets. We believe that the System Operator should be incentivised to maximise use of the transmission system.

CAP 148 (DTEC)

ScottishPower supports the development of innovative transmission access products as part of an overall solution to the issue of the GB Queue. However we believe that CAP 148 will discriminate in favour of new renewable generation that is unable to be fully connected to the network without constraining off other generation. Thus it will potentially discriminate against, and impact adversely on, existing renewable generation and new renewable generation that is able to be fully connected to the network over the next few years without impacting on other generation (as well as against non-renewable forms of generation). We believe therefore that it may be neutral, or even counter productive, to achieving the Government's renewable energy and climate change emission reduction targets.

The Working Group in its assessment has highlighted the increased constraint costs that would result from the implementation of CAP 148 quoting a range from £135m to £542m. This emphasises the benefits that can be realised from completing the deep network reinforcements required to ensure that new renewable generation which can be locally connected to the network and has full consents can be fully deployed.

The location of recently connected and currently planned renewable generation means that without the required deep network reinforcements it will be increasingly necessary to constrain off renewable generation to allow other renewable generation to run in order to relieve local constraints. On the assumption that the better sites are those which have been developed first and thus have firm TEC, CAP 148 is likely to lead to 'better quality' renewable generation being constrained off in order to allow more marginal renewable generation to run.

The Working Group has also highlighted the difficulty in implementing CAP 148 for sites with both TEC and DTEC and the opportunities this would provide for gaming. The Group has also recognised the adverse impact this could have on the competitive Balancing Mechanism where the System Operator is alleviating constraints through competitive bids and offers and through putting in place contracts.

The analysis undertaken by the Working Group has highlighted the benefits that can be gained from developing products to ensure full use is made of the existing network but the key requirement is to ensure that all parties are suitably incentivised to deliver as soon as possible the beneficial network reinforcements that will enable more renewable generation to connect to the network without requiring other generation to be constrained off.

The depth of analysis carried out by the Working Group serves to show the complexity of the issue of queue management and connection of new renewable generation. Part of this complexity arises from the need to assess such proposals under the current change management framework and criteria neither of which adequately addresses today's wider energy policy objectives.

I hope you find these comments useful. Should you have any queries on the points raised, please feel free to contact us.

Yours sincerely,

Alex MacKinnon
Regulation & Trading Arrangements Manager

Reference	CAP148-CR-07
Company	Combined Heat and Power Association ('CHPA')

Beverley.viney@uk.ngrid.com

CAP148: Deemed access to the GB transmission system for renewable generators—Consultation document

The Combined Heat and Power Association (CHPA) supports one of the fundamental concepts under-pinning CAP 148, namely the stimulation of low-carbon generation and thereby the delivery of the government's policy objectives. However we consider the original amendment contemplated by the proposer is deficient in that it is technology specific. Instead we support WGAA 3BX for the reasons set out in this letter.

We consider that an alternative formulation is needed, based on option 3 set out in the consultation report. This option envisages the availability of DTEC and the associated rights and liabilities to new low-carbon operators. Such an alternative will achieve faster market penetration by low-carbon energy more generally, helping in the earlier achievement of policy targets. It will also stimulate new investment and entry at a faster rate than would otherwise occur, enhancing competition. We agree that a suitable definition is available through the carbon capping mechanism proposed at para 4.20 of the consultation report, though the precise level of the multiplier requires further consideration.

If, for whatever reason, it were considered *inappropriate* to broaden the option of availability of DTEC to qualifying low-carbon plant, we would highlight the provisions of the Cogeneration Directive, which are directly relevant to the consultation [and which seek to stimulate the take-up of cogeneration across member states.]. [Article 8.1 states: "For the purpose of ensuring the transmission and distribution of electricity produced from high-efficiency cogeneration the provisions of Article 7(1), (2) and (5) of [the Renewables] Directive 2001/77/EC as well as the relevant provisions of [the Electricity] Directive 2003/54/EC shall apply". Article 8.3 goes on to specifically state that "Subject to notification to the Commission, Member States may particularly facilitate access to the grid system of electricity produced from high-efficiency cogeneration from small scale and micro cogeneration units".]

In more detail an alternative that incorporates good quality CHP plant:

- better promotes its growth by utilising the provisions of Article 8 referenced above, which allows priority access to the grid, thus also furthering objective (b) of the Cusc applicable objectives;
- is also likely to lead to greater diversity in technologies and provide stronger incentives to low-carbon technologies in particular, also furthering objective (b);

- could, because of the more certain process, increase the volume efficiency of the use of the network, which would also enable National Grid to efficiently discharge its licence obligations and objective (a);
- sharpens incentives on National Grid to build transmission assets sooner enhancing efficient system operation;
- substantially reduces the risk of stranded assets for developers, reducing development risk, which might also have competitive benefits;
- by incorporating a fixed development window, reduces exposure to any additional constraint costs, giving a more equitable balance of risk between developers and the transmission operators; and
- in effect acknowledges the disproportionate associated losses that arises for CHP operators where they are instructed off the system before other higher emitting technologies (and which are acknowledged at section 4.64 of the report).

Greater certainty of access to transmission might also deliver a firmer planning baseline for National Grid realising benefits under objective (a).

Balancing these factors we support WGAA 3BX as the best of the options presented, and we conclude it is significantly superior than the current Cusc baseline.

The association strongly believes that approval of the alternative based on option 3 and particularly option 3BX does not give rise to undue discrimination. This is because the difference in treatment—in this case between the differential availability of TEC and DTEC—would be objectively justified. Further there are real and sufficient differences in terms of the carbon output of generators who would qualify for DTEC to justify a particular difference in treatment. To paraphrase the terms of the letter from Ofgem/DTI dated 17 April to the Cusc Panel and referenced in the consultation paper at para 4.93, we believe it is possible to make an argument *and it can be shown* that this is the case [our emphasis] that it is more economic and efficient for generators that do not emit carbon to have grid access than for carbon emitting generators to have access when you consider the environmental costs associated with higher carbon emissions.

It would follow under this argument that given the similarities between renewables and CHP in terms of low carbon intensity that cogeneration would be unduly discriminated against under the original formulation.

While we recognise it is not in National Grid's gift, we would expect to see this amendment proposal be the subject of a regulatory impact assessment by Ofgem. The crux of the issue is whether any increased constraint costs, which

appear overstated in the report given the variety of mechanisms already available to National Grid in dealing with these, would be more than offset by carbon savings and wider policy benefits that will be proven to arise.

Please let me know if I can provide any further comments or whether you have any queries on this letter.

Graham Meeks
Director, CHP Association

Reference	CAP148-CR-08
Company	British Energy



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26th October 2007

Dear Beverley

**British Energy response to the Consultation Document on CUSC Amendment Proposal CAP148
'Deemed Access to the Transmission System for Renewable Generators'**

Thank you for the opportunity to comment on the issues raised in the above consultation document.

Key points:

- British Energy believes that neither the original or working group alternative proposals better meet the applicable CUSC Objectives. These proposals could expose all Users and ultimately consumers, to a risk of greater costs not warranted by the perceived benefits and are thus inefficient.
- The original and alternative proposals provide a subsidised entry to a specific subset of generators. Favouring one specific class of technology is discriminatory to the extent that it excludes other forms of low carbon generation that can equally help reduce carbon emissions.
- As a nuclear generator we would be concerned to see an increasing number of derogations granted from the GB SQSS that potentially undermines the reliability and security of supply. We would seek clarification that any proposed changes would uphold the standards within the GB SQSS.

The general consensus of the CUSC working group was that the original amendment proposal had a number of implementation difficulties not least of which are the potentially large number of industry codes, licences and supporting documents that may need modifying to give effect to the original proposal. The working group established alternatives that covered the intent of the original proposal without recourse to administered constraint payments, although more regulatory scrutiny may be necessary for these alternatives. The use of administered payments is a wholly unsatisfactory approach and is counter to the market based principles of the wholesale electricity market.

British Energy
Power and Energy Trading Ltd
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British Energy Power and Trading Ltd is a
member of the British Energy Group plc
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 Powering the low carbon generation

National Grid have identified that there are now connection queues developing in other parts of the network other than Scotland. Some of these, such as north Wales and Thames estuary, potentially involve large capacities of wind generation. If such additional quantities of wind generation are permitted to connect before transmission investment has been completed, there could be a potential threat to security of supply. Large quantities of intermittent generation connecting under these proposals could lead to complex interactions that National Grid would have to manage in real time.

This amendment has been proposed in part because of the frustration being felt by some renewable developers in obtaining transmission connections in a reasonable timescale due to the difficulties being experienced in gaining planning consents for new transmission infrastructure upgrades. However, these issues are not unique to renewable generators. Consequently attempts to re-shape the industry codes to favour one class of generators are wholly discriminatory and potentially ant-competitive.

One potential solution to the issue that the modification proposals are seeking to address has been discussed in the Transmission Access Standing Group Report of August 2007 and in the Transmission Access Review call for evidence. A 'connect and manage' approach on a non-discriminatory basis to utilise existing transmission capacity more efficiently until new transmission assets can be built could be beneficial. British Energy could support in principle a 'connect and manage' approach providing that it is accompanied by additional incentives on users to connect in certain areas in order to use existing spare capacity more efficiently. In our view, to do this would require a cost-reflective charging methodology for constraints under any Connect and Manage model, i.e. those parties connecting which cause constraints should bear the costs. This would at least be efficient and may have a downward effect on costs to the consumer.

However CAP148 and the alternatives are a significantly different in their application to a generic 'connect and manage' approach and BE does not support this proposal.

Yours sincerely,



John Morris
Senior Trading Consultant
Transmission & Trading Arrangements

Reference	CAP148-CR-09
Company	EdF Energy

Beverley Viney
Amendments Panel Secretary
Electricity Codes
National Grid [National Grid House]
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA



26 October 2007

Dear Beverley,

CUSC Amendment Proposal CAP148 Deemed Access to the GB Transmission System for Renewable Generators

EDF Energy is pleased to have the opportunity to comment on the proposal.

To analyse CAP148, we compared it against five tests, which we specified in our response to the Transmission Access Review (TAR). These tests stated any solution to provide earlier access for new renewable generation must not:

- cause excessive additional costs, or increase cost volatility, for consumers;
- unduly penalise existing generators;
- destroy the investment climate for new thermal generation;
- introduce disproportionate market complexity / transactional cost; or
- fail to connect a significant volume of renewable generation earlier than it would otherwise have connected.

If we consider CAP148 were implemented it would:

- result in excessive and volatile BSUoS, to the detriment of consumers, unless the costs are charged back to the generator;
- unduly penalise existing generators, such as nuclear, where generation would be bid down irrespective of optimised running pattern;
- destroy the investment climate for new thermal generation as it prioritises renewables ahead of gas, nuclear and clean coal;
- depending on how it is charged, introduce disproportionate market complexity / transactional cost;
- connect only some renewable generation earlier than it would otherwise have connected – Energy from waste plants that receive a proportion of REGOs would not benefit.

We offer no support for any of the CAP148 amendments.

We hope that you will find these comments helpful. If you have any queries please do not hesitate to contact me on the number below.

Yours sincerely,

David Scott
Energy Regulation, Energy Branch

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Reference	CAP148-CR-10
Company	Centrica



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Our Ref.
Your Ref.
26 October 2007

Dear Beverley,

CUSC Amendment Proposal CAP148 – Deemed Access to the GB Transmission System for Renewable Generators

Centrica welcomes the opportunity to comment on this Amendment Proposal. In summary, we do not believe that the proposal, nor any of its alternatives, better facilitate the achievement of the CUSC Objectives.

We are fully committed to the development of low- and zero-carbon generation, and have a number of projects in development in this area. However, we do not consider that arrangements should be introduced that are deliberately and explicitly discriminatory. Advice from Ofgem and NGET's legal team early on in the process was that this modification could be examined under the existing CUSC rules, and that *due* discrimination could be allowable in certain circumstances. We believe that CAP148 would not achieve this, and would in fact introduce *undue* discrimination. It is designed explicitly to introduce a cross-subsidy to the market, reducing cost-reflectivity of system charges, and does not address the real issues that currently exist in the transmission access arrangements.

There are serious issues around planning for both infrastructure and project development which, if resolved, would go some way to resolving current delays – not just for wind power, but for all generation that needs to gain access to the transmission system.

We are in full agreement with National Grid's conclusions view as expressed in the consultation document. CAP148 is designed to address a particular element of Government policy, and under the current CUSC objectives cannot be approved. There are sufficient tools for Government to impose new requirements on the industry, and the CUSC is not the most appropriate route for them to do so. National Grid also suggests that if CAP148 were to be approved, an attempt would be made through the charging methodologies to ensure that any additional costs would be, as far as possible, borne by the DTEC users causing them. We would be broadly supportive of this charging methodology change, as it would reduce the cross-subsidy imposed on the industry. It

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Centrica plc - The group includes British Gas Trading, British Gas Services and Accord Energy
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would be grossly unfair, for example, if customers of a small independent supplier were forced to pay for the costs of constraints caused by the inappropriate connection of a particular subset of generators. Even if this charging change were to be implemented, however, the application of priority access to the transmission system by renewables is still discriminatory.

As we do not believe that any of the available options better facilitate any of the CUSC objectives, we do not intend to make comments on the process or definition of the practicalities of running a post-CAP148 world. However, we believe that it would be an improvement to the original amendment if low-carbon generation (as defined in Section 4.20 of the consultation document, capped at 0.2t/MWh) was to be the measure by which eligibility for DTEC was decided. This would better reflect the fact that the UK needs to promote low-carbon conventional, controllable and reliable plant as well as intermittent power in the overall generation mix. Therefore Centrica's belief is that WGAA3BX would be better than the CAP148 original; although we would reiterate our stance that none of the options on the table are better than the current CUSC baseline.

We remain committed to involvement in the Ofgem-led Transmission Access Review, and we hope that at the very least, the debate around CAP148 has shown the industry that a holistic view is required, rather than short-term-focussed and discriminatory piecemeal changes.

If you have any queries in relation to this response, please do not hesitate to contact me.

Best regards,

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Reference	CAP148-CR-11
Company	BWEA



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Dear Beverley,

BWEA Response to :-
CUSC Modification CAP148
(Deemed Access to the GB Transmission System for Renewable Generators)

Introduction

BWEA was established in 1978 and is the representative body for companies active in the UK wind energy market. Its membership has grown rapidly over recent years and now stands at over 350 companies, representing the UK wind, wave and tidal stream industries.

The UK has a rich variety of renewable energy resource, including 40% Europe's wind resource. Wind energy currently supplies approximately half a million homes in the UK. It is important to support and encourage the growth of the sector and associated benefits.

BWEA supports CAP148 and the introduction of Deemed TEC (DTEC). We believe that it is a positive way to provide timely connections for new renewable generation and will provide a valuable contribution towards achievement of the government's renewable targets.

An alternative view has been expressed by generator members with mixed plant generation that CAP148 is actively discriminatory in favour of renewable generators. The concern is with the fact that such active discrimination is not sustainable longer term.

**Alternatives**

BWEA notes that this consultation paper reflects the working group approach in that the various alternatives were defined in respect of three key criteria of Eligibility; Force majeure risk; and Lead time.

Eligibility

BWEA supports the proposal that eligibility for DTEC should be extended to all generators which hold Renewable Energy Guarantee of Origin certificates (REGOs) for 100% of their output. This is option 4 in the matrix of options.

Force majeure risk

BWEA supports the proposal that National Grid should have no relief for delays arising from obtaining Planning permissions for wider works. This is option B in the matrix of options.

Lead time

BWEA believes that it is important that connections be guaranteed in a timescale that is consistent with the validity of planning permissions. It will be of benefit all for applications for grid connection to be made by generators which have obtained planning consents and reached financial close on their projects. This is typically achieved 12 to 18 months after receipt of planning consents. National Grid and other users of the transmission network can have confidence that these projects will proceed to connection. However this certainty is fundamentally undermined if the guaranteed connection date should fall beyond the validity of the planning consents.

BWEA therefore supports the proposal that transmission access be provided in 36 months. This is option Y in the matrix of options.

BWEA therefore supports the intention of CAP148 that DTEC holders pay the same TNUoS and BSUoS as would be charged to an equivalent generator with TEC.

It is important to note the variable nature of wind generation. It is not feasible to place dependence solely upon wind generation and to undermine the security of supply provided by more conventional plant. UK PLC requires an appropriate balance of renewable generation and generation that offers system security services. We would not wish to replace the current queue of renewables with a queue of new conventional generation due to a shortage of TEC.

If you wish to discuss further any of the points arising from this letter, we would be happy to discuss.



With kind regards.

Yours sincerely

Graeme Cooper

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Sign up to support wind energy at www.embracewind.com

Reference	CAP148-CR-12
Company	Wind Energy Services ('WES')



25 October 2007

Beverly Viney
Amendments Panel Secretary, Electricity Codes
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
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CV34 6DA

Dear Beverley,

CAP 148 Consultation Response

Wind Energy (Services) Limited ("WES") is writing on behalf of the seven Wind Energy associate companies which are party to the Connection and Use of System Code. With some 600MW of projects under development across Scotland, the issues addressed in CAP 148 are of considerable importance to us and to the overall achievement of the UK Government and Scottish Government's renewables targets.

As proposers of this Amendment we would like to take this opportunity to express our appreciation to all those in the industry who contributed to the working group for their valuable and considered input which was useful in crystallising our views.

In summary:

- i) we are of the opinion that the amendment in its original form would better facilitate the CUSC objectives than the status quo;
- ii) of the original and the various Working Group Alternative Amendments, we most favour 4CY for the reasons set out below;
- iii) we consider that DTEC is fundamentally an economic concept resulting in long term savings for the consumer, taking all factors into account;
- iv) we consider that DTEC proposals involve due discrimination in favour of new renewables over potential new sources of conventional generation in certain geographic areas – principally northern Scotland. Other generators should be neutral the effects of this proposed change;
- v) we disagree with the contention by National Grid, expressed in its "Initial View", that over-allocation of firm access rights is inconsistent with its current licence obligations. Furthermore we consider their suggested alternative charging methodology to be inappropriate and incorrect through a failure to take all relevant factors into consideration.

This amendment proposal is intended to bring the principles embodied in the EU Renewables Directive, signed and accepted by the UK Government, firmly and positively into UK transmission regulations.

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Introduction

CAP148, proposed by one of the companies within our group, proposes a concept more often referred to as “Connect and Manage”. In its recent report “Lost in Transmission – The Role of Ofgem in a Changing Climate” the Sustainable Development Commission, following a detailed review of issues impacting Ofgem, set out in its Executive Summary a number of key recommendations, among which was “A connect then manage approach is adopted to help connection of new generation to the transmission network.” In its pure form Connect and Manage would involve immediate connection to the network as soon as projects are able to do so. CAP148 recognises the practical difficulties and costs arising and seeks to mitigate these and achieve an acceptable balance of risk by a number of means including the three year maximum window beyond planning consents for NGET to provide connections.

The planning process for new generation and most particularly for new wind power generation is lengthy and uncertain in timing as well as outcome. It is further complicated by equipment shortages which mean long lead times for the delivery of key components, such as wind turbines. It is practically impossible for developers to know, when they submit planning applications, when and if they will get consent. It is then a challenge to get turbines and handle construction within the three year period for substantial implementation of those consents in Scotland (five years in England and Wales). To marry up that process with grid infrastructure upgrades, most particularly for projects in northern Scotland where a series of sequential reinforcements are often required under the existing ‘invest and connect’ approach is close to impossible.

Furthermore the industry is in the chicken and egg position of grid upgrades being planned based on proposals for wind farms, many of which may fall away in due course for planning, which are unable to apply for planning consents as the consents will have expired by the time a Grid Connection would be feasible. As a result, the façade of many projects being “in the system” is perpetuated, to no one’s benefit. The system creates barriers to entry and increases developer costs, the Transmission licensees have an uncertain background against which to investment, Government policy goals are frustrated and consumers are denied the benefits of increased competition and face increased costs. Connect and manage will address these issues, allowing developers to focus on the submission and processing of planning applications in as timely a manner as possible.

Since early 2005, when the present grid queue in Scotland formed following the deadline of end 2004 for submission of connection applications assessed against the transitional background, industry and regulators have been discussing how to address the problem. CAP148 is in line with the work of the Access Reform Options Development Group as set out in their report of April 2006. This group, established and chaired by Ofgem, brought forward a series of options, progressively building on each other. In the three most advanced options, each had the concept of new users receiving TEC in a defined timescale (such as 3 years) after a trigger, such as the receipt of consents, had been met. This is a fundamental element of CAP148.

CAP148 has sought to incorporate one of the key concepts developed after extensive industry debate overseen by Ofgem. No alternative enduring solution has been proposed by other groups such as the Transmission Access Standing Group. As mentioned in our opening remarks, CAP148 embodies the concept put forward by the Sustainable Development Commission as the correct way forward. The key elements of CAP148 are those which industry – and not only the renewables industry but the electricity industry generally - has widely supported over an extended period.



The process for consideration of CAP148 started in early 2007. By the end of the process, potentially following an Impact Assessment by Ofgem, it is likely to be early 2008, if not later, before it can be implemented. If it is rejected, another way must be found to address the problems identified. That way could potentially be proposed by the current Transmission Access Review *but* if such an alternative is put forward, it will be at least a further year before it can be implemented. The renewables industry in the UK is faltering with the Government only today announcing a retrenchment from previously agreed EU targets as a result of concerns about the UK's ability to achieve levels of penetration for renewables which have already been achieved in other EU countries. Time is not on our side – or indeed, with global warming accelerating – on the side of this planet. CAP148 offers a realistic way forward to achieve a major change in renewables penetration in this market, not only for wind power but also in due course for emerging renewables technologies such as wave and tidal which absent this, may struggle to gain momentum in Scotland due to the transmission issues. We fully support it and urge Ofgem in due course to approve it.

Original and Working Group Alternative Amendments (“WGAAAs”)

The working group members, including ourselves, only supported certain WGAAAs and not CAP148 in its original form. The principal difference is that none of the WGAAAs included the original CAP148 concept of administered pricing for constraints. As proposer of CAP148, it may be useful to comment a little further on this.

It is our belief, in part echoed by NGET in its Initial Response to CAP148, that the potential exists for parties experiencing constraints to vary their bidding strategies under the BSC to take advantage of locational market power (“LMP”). It was to address this risk and also to remove the volatility associated with passing higher constraint costs through BSUoS that we proposed the administered pricing arrangements.

Having discussed these at length within the working group, we have been persuaded that administered prices as originally conceived by the proposer would have been practically difficult for NGET to implement. The arrangements inherent in the various WGAAAs therefore place much more emphasis on Ofgem to actively police possible LMP abuses. The BSUoS arrangements do not offer any answer to the problem for supply companies of greater BSUoS volatility which may be problematic in future. The scale of the problem is not major in our view but may need to be addressed in future by another CAP if CAP148 or one of its variants is adopted.

The CAP148 report usefully identifies three key issues that differentiate between the various WGAAAs as follows:

- i) Eligibility
- ii) Force Majeure Risk
- iii) Lead time

Our position on each is as follows:

Eligibility

CAP148 in its original form proposed all REGOs with a proportional allocation of DTEC for mixed generation holdings. This corresponded to “1” in the choices. Having debated the point about mixed use holdings extensively in the working group (arguments well presented in the report) we consider that the inclusion of such generation is practically of no value, thus **we support Option 4** which is REGOs minus proportionally qualifying.



If the eligibility criteria were to be restricted to only intermittent renewables this would potentially reduce constraint charges. However in our view it would not be in line with the EU Renewables Directive which is the principal rationale behind the need for CAP148. We thus reject Option 2

For the same reason that it is not in line with the Renewables Directive, we reject Option 3 which seeks to treat all low carbons technologies (as defined further in the Working Group Report) as qualifying technologies.

Force Majeure Risk

This choice deals with exceptions to the defined time period for NGET to deliver transmission to new users. There are three choices here.

Option A is the same as today, i.e. NGET would be able to delay connection dates until it had all applicable consents and had built compliant upgrades to the network. This offers no benefits and was not considered by any working group members to be better than the current CUSC wording. We also reject this option.

The working group discussed two other options – Option B where NGET has no relief for delays arising from planning permissions for wider works but would otherwise have the potential for some relief (e.g. for longer-than-expected construction periods) and Option C where NGET has no relief at all for delays, howsoever arising. We consider that there is probably little practical difference between Options B and C but in our view Option B is somewhat illogical – it is incumbent on NGET to manage its business in the most prudent way and delays of this type should not impact its customers. We therefore **support Option C**.

Lead Time

There are only two options proposed for lead time – 3 years and 4 years. In Scotland, where the largest number of queued projects are located, a recent change in planning legislation has required projects to substantially commence within three years of consent being granted. It takes around a year to build a typical wind farm. If the 4 year option is adopted then developers will need to be able to source turbines within a very narrow window of availability in order not to have the wind farm built and standing idle, unable to connect for some months. The longer period certainly would reduce constraint payments but it would mean consumers losing out on the other benefits of having renewables on the network earlier – see below for more on this. Furthermore it would mean the achievement of Government targets being unnecessarily delayed. This is a pure cost-benefit trade-off and we strongly support having only a 3 year lead time, thus **Option 3**.

DTEC Fundamentally an Economic Concept

There are both costs and benefits if DTEC is to be implemented. The principal cost is the higher constraint costs and the higher reserve costs required by increased volumes of intermittent generation whereas the benefits include:

- i) reduced brown power prices to consumers through lower cost renewable energy replacing more expensive conventional generation;
- ii) additional TNUoS charges paid by new users (see more below);
- iii) reduced costs to the economy from lower carbon emissions levels;
- iv) a more stable background against which TOs can plan efficient investment (and reduced stranded asset risk) and a more stable investment climate for new generators.



It is our considered view that the benefits, taken in conjunction with the mitigants to constraint costs as mentioned below, will result in an overall positive benefit to consumers. Further comments on each of these elements are as follows:

Constraint Charges

There are several mitigants to the quantum of constraint charges including:

- i) as new renewable generation is introduced, supply companies will buy this in preference to conventional generation. In general, due to higher transmission costs, conventional generation in Scotland can reasonably be expected to come off the bars, freeing up capacity for renewables and reducing constraint charges;
- ii) the quantum of renewables which are likely to be built in due course will only be a fraction – on the balance of probability less than half – of the current queue. Other projects will fail in planning;
- iii) CAP148 would not immediately accelerate many projects. Planning is itself a major impediment and this may worsen near term as more projects submit applications once the constraint of late connection dates is lifted. This will be a substantial mitigant for constraint charges;
- iv) other practical problems exist in the market which are slowing the speed of build of renewable power plants. These include radar issues. Some of the schemes already consented cannot yet go forward for this reason.

In Annex 8 of the Working Group Report NGET offered various scenarios for constraint costs based on different assumptions. We appreciate their efforts but we do not consider the assumptions to be appropriate. By way of example, their most optimistic assumption was for constraint costs of £135 million p.a. until the required deep upgrades are built. This is on the basis that 25% of existing queued projects come forward by 3 years as a consequence of the introduction of DTEC but also on the basis that all projects in the current queue are consented.

The assumption of 25% acceleration merely relates to the number of schemes being able to be built earlier. If however the other factors mentioned above are taken into account then the quantum of constraint costs would fall substantially from this level. In our view this is an area which requires very careful evaluation by Ofgem in any Impact Assessment¹. It is worth noting also that the full costs of the whole UK transmission network only represent some 3% of consumer power prices. Levels of constraint costs are without doubt only a small potential portion of overall grid infrastructure costs, thus it is reasonable to conclude, even on a simple common-sense analysis without detailed evaluation, that we are dealing with values of less than 1% of overall power costs. This is de minimis in its impact on consumers, even if there were no mitigants to it. In reality there are many, as we set out below, and we believe they result in an overall benefit from the introduction of DTEC.

Increased Reserve Costs

We note that a consequence of higher renewables penetration will be increased reserve costs. This is not a feature of DTEC itself but a consequence of increasing the volume of renewables in the generation mix. In our view **it would therefore be unreasonable to attribute increased reserve costs to DTEC in any Impact Assessment.**



Lower Brown Power Prices

The ROC mechanism establishes an absolute cost to the consumer each year for renewable energy, regardless of the quantity actually generated. As more renewable energy is generated, the marginal cost to the consumer of each additional MW within the overall target is only the brown power price element. Because the ROC is a strong incentive with the current high recycle element, renewable generators can afford to price their brown power very competitively. The effect is to reduce overall blended power prices quite considerably for supply companies who are able to buy additional renewable power.

Increased Revenues from Additional TNUoS charges

Under CAP148 and the WGAA's it is envisaged that new generators with DTEC would pay TNUoS in the same manner as all other generators. We note that NGET is proposing to charge costs in another manner and hence these comments only relate to the impact as intended by the proposer of CAP148.

There are two possibilities firstly for the costs to be covered by TNUoS. In CAP148 with administered prices, the intention was to pass constraint costs into TNUoS as they are conceptually an alternative to building transmission assets. Under the revised WGAA proposals however, TNUoS would only cover existing physical assets.

On the basis that the second alternative is supported but without the NGET charging proposal, new connectees would pay TNUoS in the same manner as other generators. Overall, the increased level of generation in the market with a relatively static grid infrastructure would mean that the costs per MW for all users would reduce. Part of the overall costs would be borne by the new DTEC holders. As costs fall for individual generators, they would be reflected in the market in due course by a fall in power prices, thus representing savings for consumers. With constraint costs passing directly into the TNUoS calculation, this saving would be picked up more quickly.

Even absent a direct link between the incremental TNUoS payments from new DTEC holders and constraint payments, from an economic perspective the two costs can be netted.

Reduced Costs to the Economy

The most accurate indications of the adverse impact of emissions and global warming are given in the Stern Report. Stern specifically states that failure to take action now will result in much greater costs in the future. We have not sought to quantify this further but expect to see a detailed consideration of this in any Impact Assessment in due course.

Due Discrimination

NGET has expressed a view that the arguments for due discrimination were not objectively justified in the working group "in the context of the CUSC". The working group sought to objectively discuss the issues and did so in a very structured manner as set out in the Report in sections 4.90 to 4.95. We recognise that various working group members had different views on the quite subjective evaluation of merits and demerits against objective criteria. For that reason and no other, the Report did not set out an agreed position.



Discrimination by virtue of DTEC will only occur where new renewable plant in a constrained area is given a connection date more favourable to it than new conventional generation seeking to connect in the same area. Existing generation of all kinds should not be impacted. Even where generators are constrained, they are free to bid at prices reflecting the costs to them of such constraint so should not be adversely impacted.

From our perspective the rationale for preferential treatment of renewables lies at one level in the UK Government and EU legislation as well as stated UK Government policy to reduce emissions and lessen the effects of climate change by promoting renewable generation. In areas of limited existing transmission capacity it is therefore right that renewables should be given a preferential position over conventional generation in access to the transmission network. This is not a matter of allowing one party to connect and disallowing another – it is merely a question of timing.

This is not the only perspective from which this may be viewed however. We return to our view expressed above that there is a net positive benefit to consumers from allowing more renewable generation sooner. Thus discrimination in favour of renewables through DTEC is promoting economic efficiency in the power market overall with costs arising in NGET being offset by savings elsewhere. For this reason in our view this is most definitely a case of due discrimination.

Finally on this point we believe that CAP148 removes existing discrimination inherent in the CUSC today. New generation seeking to connect is unable to do so in areas of limited transmission as regulations discriminate in favour of existing generation, restricting entry to the market. CAP148, by allowing new low cost renewable generation to compete, will lead to less efficient generators closing which itself will free up further transmission capacity, leading to greater efficiencies.

National Grid Proposed Charging Methodology

We note NGET's concern that over-allocation of firm access rights is contrary to their licence obligations. We do not agree with this interpretation. NGET has an obligation to be efficient and economic – there is no reference to the manner in which these terms are to be considered. It is not efficient to allocate and build full capacity transmission lines for a wind farm which, on average, will generate across the year circa 30% of rated capacity – DTEC allows a more pro-active management of the network. Economics do not take into account only costs but also benefits.

In proposing to charge constraint costs back to DTEC holders, NGET is over-simplifying the issue for the following reasons:

- i) their methodology does not recognise the economic benefits that the DTEC holders bring to consumers as discussed further above;
- ii) constraint costs arise as much from the presence of incumbents using the transmission lines as from new users seeking to connect. It is therefore wholly inappropriate and discriminatory to suggest that such costs should fall exclusively on the new users;
- iii) we do not believe it would be possible to accurately and transparently allocate constraint costs among particular users if they are deeper constraints.



If you wish to discuss further any of the points arising from this letter, we would be happy to meet to do so.

With kind regards,

Yours sincerely,

Michael Davies
Managing Director

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Reference	CAP148-CR-13
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Friday 26 October 2007

Dear Beverley,

Response to the CAP148 Consultation, Deemed Access to the GB Transmission System for Renewable Generators

Our view

E.ON UK welcomes the opportunity to comment on the consultation document. We are convinced that neither the original proposal nor the working group alternatives would better the facilitate the applicable objectives. To ensure that future investment to develop the GB transmission system is put to work efficiently, it is important that all are rejected.

Having made this view clear, we would however add that because the working group addressed the problems arising from the proposals so comprehensively, the work summarised in the consultation document will prove to be useful as the industry continues to look for solutions to the current queues for transmission access.

Connect and Manage

The analysis undertaken for CAP148 draws the conclusion that the concept of Connect and Manage, that is providing access to a new generator before the transmission system has been strengthened to accommodate the new capacity, is unworkable. Firstly, it would be technically inefficient to require National Grid to reschedule its construction programme to give priority to a new class of capacity product (DTEC). This amounts to sub-optimal building and therefore a longer and more costly overall connection process (paragraph 4.79).

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Furthermore, the working group spent a lot of time considering a very basic specimen works programme (annex 5). It emerged that the perceived advantage of connecting DTEC generators as a priority could lead to the futile situation where one renewable generator would have to be constrained off the system as the result of the arrival of other renewable generators onto the same section of inadequate network; a very feasible scenario in the north of Scotland.

Secondly, it would be economically inefficient to provide a premium access product (and not at a premium price) to one class of generator. The certain increase in constraint costs would mean that entry into the market for DTEC holders would be subsidised by all other generators and consumers. Ofgem has previously noted this issue in the CAP143 decision letter.

At its simplest, Connect and Manage, which CAP148 and its alternatives try to facilitate, envisages putting greater volumes of power onto an unready system only to have to constrain greater volumes off again than at present. This would be fundamentally inefficient and, ultimately, a wasteful expense to be borne by consumers. The proposals are more about making National Grid provide commercial opportunities to developers in the short run than they are about effectively planning to reduce the UK's carbon emissions in the long run.

Implementation of a CAP148 proposal

Looking at some of the detail of the original proposal and the alternatives, it must be concluded that even though the working group completed thorough and wide-ranging analysis, it would be difficult or at best risky to actually implement any of the options.

Firstly, the solutions would rely on processes that haven't yet been defined. For example, the original proposal would require the system operator to develop two parallel balancing mechanisms: with one stack for interruption payments and another for bid/offer acceptances (paragraph 4.54). The process and IT challenges presented by this feature were so great that the group could not attempt to draft the necessary CUSC text or consider the consequential BSC changes.

The big assumption with the alternatives, that either 36 months or 48 months respectively is sufficient time to allow National Grid to deliver a rescheduled investment programme and ensure a minimal level of constraints, was not tested. The potentially profound impact on transmission licensees' obligations is unknown (paragraph 6.14).

Secondly, the scale of increased constraint costs would be difficult to judge prior to implementation. What is certain is that costs would be substantial. Annex 8 indicates an increase in costs compared to the baseline in the range £135m – £542m and it was stressed to the working group that the assumptions used were conservative and very much a base case scenario.

Next steps

Although CAP148 is unworkable we would emphasise that it is not the only solution to the current queues for transmission access. Our commitment to freeing up new capacity sooner is as urgent as that of other companies, as we are one of the country's biggest renewable developers and have a number of sizeable projects in development in Scotland.

Our consistent view is therefore that it is better to 'Manage and Connect' the existing delays through incremental changes to the process. We continue to concentrate on the Transmission Access Review, and recent proposals such as a CAP150, that can potentially speed up connection without detrimentally impacting other users and customers.

We hope that you will find these points helpful to your assessment.

Yours sincerely,

Ben Sheehy
Trading Arrangements
Energy Wholesale

Reference	CAP148-CR-14
Company	Scottish and Southern Energy plc ('SSE')

Page 1 of 4

Hynes, Patrick

From: Aileen.Mcleod@scottish-southern.co.uk
Sent: 29 October 2007 08:56
To: Viney, Beverley
Cc: Garth.Graham@scottish-southern.co.uk
Subject: CAP148 Consultation response

Beverley

I apologise that this is a little late, but please find below SSE's response to the CAP148 consultation.

Regards

Aileen McLeod
 Regulation Analyst
 Scottish and Southern Energy
 01738.456.107

Dear Sirs,

This response is sent on behalf of Scottish and Southern Energy, Southern Electric, Keadby Generation Ltd., Medway Power Ltd., and SSE Energy Supply Ltd.

In relation to the Consultation Document associated with CUSC Amendment Proposal CAP 148 "Deemed Access Rights to the GB Transmission System for Renewable Generators" (contained within your note of 28th September 2007) we have the following comments to make.

For the avoidance of doubt, nothing in this consultation response should be taken as indicating we wish to raise a 'Consultation Alternative'.

We welcome the statement from Ofgem that CAP148 will be the subject of a Regulatory Impact Assessment by the Authority in due course. We look forward to commenting in detail at that time on some of the wider issues that arise from this proposal. We have therefore limited our comments, at this time, to the particular proposed changes to the CUSC in terms of whether the Original (or Alternatives) better achieve the applicable CUSC objectives.

We have concluded that neither the CAP148 Original or Working Group Alternatives better achieve the applicable CUSC objectives and therefore neither should be implemented. The 'baseline' CUSC is both 'Better' and 'Best'.

We are mindful also of the recent comments from the Authority as to the 'chain of events' or 'steps' in its decision making process concerning changes to industry codes. The first question it must ask is does the proposed change better achieve the applicable CUSC objectives. Only then can it consider, if appropriate, its wider statutory duties.

As CAP148 fails to better achieve the applicable CUSC objectives then even if CAP148 were said to better meet the Authority's wider statutory duties (which we do not believe that it does) it should still be rejected by the Authority.

Before turning to our comments on CAP148 we are mindful of the issue of whether Ofgem has the vires to act in regard to the implementation of Article 7 of the Renewables Directive. As a party which attends the Panel and Working Group meetings Ofgem will have received all the correspondence which details the arguments that arise in this regard. For the sake of brevity we shall not repeat them here. We look forward with interest

12/11/2007

to reading the detailed comments in the Regulatory Impact Assessment on this matter. Clearly once a decision, on CAP148, has been taken it will be for parties to judge what, if any, further steps they may wish to take to challenge the validity of that decision if appropriate.

The primary reason why we do not believe that CAP148 (original or alternatives) better achieves the applicable CUSC objectives is that it fundamentally discriminates between CUSC parties and does not therefore facilitate competition.

At the heart of CAP148 is the notion of 'robbing Peter to pay Paul'. It seeks to take the existing transmission capacity which an existing generator has (and has paid for, especially those who paid 'deep' reinforcement costs) and pass it to a new party.

It undermines the historic property rights that the existing generators have. Whilst Ofgem (in, for example, its recent discourse concerning the Transmission Access Review) has implied that these property rights may not, in their view, exist we are certain that they do. We are mindful, for example, of the approval by Ofgem of various changes to the CUSC relating to TEC (such as STEC, LDTEC, TTEC etc.) which, in our view, reinforces our belief that TEC is an enduring right.

Undermining property rights is a very grave course of action to embark upon and should not be entered into lightly. The wider implications for the electricity sector are profound and significant. The regulatory risk profile of the sector could be substantially altered for the worse leading, for example, to major increases in cost of capital which will feed through inevitably into higher costs for consumers.

Notwithstanding the rights that parties have under Article 1 of the 1st Protocol of the European Convention on Human Rights; if the matter of transmission access is so comprehensively undermined (as CAP148 does) then it brings into serious question the validity of current and future investments in electricity generation in the UK. Without the ability to know that, subject to paying the appropriate charges (i.e. TNUoS) a generator will be free to produce at times broadly of his choosing (which is the corner stone of the NETA/BETTA 'self dispatch' model) then parties will have to consider if their existing generating plant may become 'stranded'. Equally, this concern will extend to future generation investments.

CAP148 therefore undermines security of supply in the electricity sector.

Leaving aside that as such CAP148 would be directly counter to the UK Government's stated energy policy goal "to maintain the reliability of energy supplies" we believe that as CAP148 threatens security of electricity supplies it fails to achieve the efficient discharge of licence obligations. Therefore it fails to meet the CUSC Applicable Objective.

On a related point, we note the comments in paragraph 4.81 of the Consultation Document regarding "Maintenance of the Reliability and Safety of the Grid". We look forward to reading in the Regulatory Impact Assessment the advice that Ofgem receives from National Grid on this specific matter.

In addition CAP148 introduces discrimination into the CUSC between renewable generators. It would mean that an existing renewable generator, such as our hydro stations in northern Scotland or our biomass co-firing plants at Ferrybridge and Fiddlers Ferry would be treated differently to a new hydro station built, say, in northern Scotland or a biomass co-firing plant in central England - even if the new and old plants in question were identical in all material respects. The ONLY difference between these plants is that some are new and some are old. All are renewable and all contribute to meeting the overall aims of the UK Government energy aspirations as well as the Renewables Directive.

The legal issues associated with discrimination are explored briefly in paragraph 4.91 and 4.92 of the CAP148 Consultation Document. We agree with the comments ascribed to a WG member in these two paragraphs. The comments from Ofgem in the (UNC) 116 hearing on the issue of discrimination together with the legal principles laid out in case law, for example in *Carson v Secretary of State* (2005) *Gebhard v Milan Bar Council* (1995) *Italian Republic v Commission of the European Community* (1963) and *Karlheinz Schmidt v Germany* (1994); together with the comments in Steiner & Woods "Textbook on EC Law" concerning the rules of administrative justice and in particular 'proportionality' have been helpful to us in coming to our conclusion that CAP148 (original or alternatives) would, from a legal perspective, be discriminatory.

We have not, at this stage, considered wider legal issues, such as the compatibility of CAP148 with regard to other European Directives or the European Treaty.

12/11/2007

Another reason why we do not believe that CAP148 (original or alternatives) better achieves the applicable CUSC objectives is that of cost of constraints that arise with CAP148. These costs are likely to be substantial.

We are mindful of the comments made earlier this month by the Authority in regard to our CAP143 proposal (which, like CAP148, relates to TEC and access for renewable generation) and in particular:-

"Whilst facilitating earlier entry into the market may be expected to stimulate competition, the possibility of exposing all users to a disproportionately greater level of costs (which in effect amount to a subsidy to the new entrant) could have an adverse impact on competition."

Given this statement from the Authority coupled with the National Grid 1st October 2007 'Open Letter' ("Initial thoughts on charging implications of CAP148") and the initial view of National Grid in section 12 of the CAP148 Consultation Document (in particular 12.2) we can only conclude that if, despite our comments to the contrary, CAP148 were to be approved then the total cost of constraints etc., associated with DTEC would have to be applied wholly and exclusively to DTEC parties alone.

This would introduce a substantial financial cost and risk to all DTEC generators one which we believe would make such projects unviable. It would, to borrow a phrase from the Authority's CAP143 decision letter, be "a product which is so restricted as to be of no practical use."

A further reason why we do not believe that CAP148 original better achieves the applicable CUSC objectives relates to the matter of determining the compensation to be paid to existing generators for their losses that arise from CAP148.

As proposed in the original this would be an administered price limited to "associated losses". Notwithstanding the rights that parties have under Article 1 of the 1st Protocol of the European Convention on Human Rights and in particular as they relate to the matter of compensation etc. (which are explored in much more depth in Annex 7 and 8 of the BSC P173 Assessment Report) we believe that the introduction of an administered pricing regime into the GB electricity market would be directly at odds with the statutory framework under which the industry operates; i.e. the Electricity Act, the Utilities Act and the Energy Act; and would be directly counter to the UK Government's stated energy policy goal "to promote competitive markets in the UK".

Finally, we agree with the sentiment expressed by National Grid in paragraph 12.6 of the Consultation Document as to the "narrow interpretation of particular government policy" that is used to justify CAP148.

We are mindful that the most recent and authoritative statement of the UK Government's energy policy was published in May 2007 ("Meeting the Energy Challenge"). Of the twenty uses of the word "priority" in that Government statement none relates specifically to renewables per se, let alone transmission access, even though six pages of that statement (pg 158-164) is dedicated specifically to "Improving grid access for renewable generation".

The UK Government in not enacting Article 7 of the Renewables Directive (which is being sought with CAP148) when it implemented the rest of that Directive or in not setting out in its statement in May that renewables should have priority transmission access has, in our view, made its position clear on this matter. Those that seek to invoke UK Government energy policy etc., in support of CAP148 do so in error.

Regards

Garth Graham
Scottish and Southern Energy plc

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12/11/2007

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12/11/2007

Reference	CAP148-CR-04
Company	Highlands and Islands Enterprise ('HIE')



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Amendments Panel Secretary
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beverley.viney@uk.ngrid.com
09110107

Dear Ms Viney

**Response to National Grid consultation - CUSC Amendment Proposal CAP148,
Deemed Access to the GB Transmission System for Renewable Generators**

As you are aware, Highlands and Islands Enterprise (HIE) is the Government's agency responsible for economic and community development across the northern half of Scotland. Along with its local partners (Shetland Islands Council, Orkney Islands Council, Comhairle Nan Eilean Siar, Highland Council, Moray Council and Argyll & Bute Council), HIE has taken a considerable interest in, and has responded to a number of consultations on, issues affecting development, access and management of grid infrastructure. We are also working closely with Scottish Government in relation to a wide range of regulatory issues and are supporting its efforts to challenge the barriers currently blocking renewables development across Scotland. HIE and its partners are particularly interested in this proposal given the opportunity we believe it will offer renewable generators to connect to the transmission system in the north of Scotland.

Applicable objectives

The consultation document makes it clear that reaching a decision on these issues depends critically on what criteria are used for assessment. The 'CUSC Applicable Objectives', which are the only criteria which the Working Group (WG) could formally use, do not allow wider issues to be considered. The consultation document makes it clear that reaching a decision on these issues depends critically on what criteria are used for assessment. The 'CUSC Applicable Objectives', which are the only criteria which the Working Group (WG) could formally use, do not allow wider issues to be considered. HIE and its partners would be seriously concerned if Ofgem's social and environmental objectives, and wider Government objectives, were not fundamental to, and taken into account as part of, the final decision making process.

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Careers Scotland in the Highlands and Islands is part of the HIE network.



Basic issues

HIE and its partners are in favour of the fundamental elements of the proposal and alternatives:

- New renewable generation will get Deemed Transmission Entry Capacity (DTEC) in advance of the necessary transmission reinforcement being constructed;
- Until the transmission reinforcement is constructed, the resulting bottlenecks are resolved by constraining generation, with DTEC generators being the last to be constrained.

Constraint costs

CAP148 proposes administered Interruption Payments to generators constrained as a result of DTEC generators.

We support the WG view (Clause 5.6) that the current constraint payment mechanism is better than the administered Interruption Payment system proposed in CAP148, for simplicity and lower costs. If in practice there is evidence that lack of competition is resulting in unnecessarily high constraint payments in some areas, it would be feasible to address this with a further Amendment Proposal.

Definition of eligible generation

We agree with the WG proposals for defining the technologies eligible for DTEC, although we have no strong preference for Options 3 or 4 of Clause 5.2, i.e. defining eligibility as Low Carbon plant, or plant earning REGOs.

Extensions to projects

The consultation document proposes that an existing renewable generator could obtain DTEC for an extension. This introduces considerable complexity. HIE believes this is a secondary issue that can be dealt with at the detailed drafting stage, but also proposes that if necessary, a minimum size requirement can be justified, to avoid a relatively small extension project causing disproportionate administrative and operational complexity.

Lead times

As the aim of CAP148 is to support new renewable generation projects, HIE supports option Y of Clause 5.5, i.e. DTEC is available 36 months after the necessary criteria are met, rather than 48 months. HIE would support a shorter period, i.e. 24 months, as this is around the time necessary to build a large wind farm from the point at which planning consents are obtained and a connection offer is signed. We therefore disagree with the logic of Clause 5.19.3.

Costs

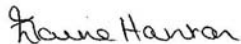
Clause 12 describes National Grid's initial views. Most important is the view that NG would seek to charge DTEC generators the costs caused by their connection, and it appears that NG intend to include the constraint costs. HIE believes this would negate any benefit of DTEC and CAP148. It is therefore critical that this issue is resolved, which may mean changes to National Grid's licence conditions.

Summary

HIE strongly supports CAP148. Provided National Grid's proposals for charging are not implemented (see above), CAP148 is likely to result in significant advances in completion dates for new renewable generation projects. There are difficulties and costs, but these appear justified by the benefits.

We hope that you find these comments helpful. We look forward to hearing the results of the consultation in due course.

Yours sincerely



Elaine Hanton
Head of Renewables

On behalf of a Highlands & Islands partnership comprising:-
Highlands & Islands Enterprise
Shetland Islands Council
Orkney Islands Council
Comhairle Nan Eilean Siar
Highland Council
Moray Council
Argyll & Bute Council

End of ANNEX 4

ANNEX 5 - Electricity (Guarantees of Origin of Electricity Produced from Renewable Sources) Regulations 2003

The detailed regulations that set out eligibility for Renewable Energy Guarantees of Origin REGOs can be found via the Ofgem web site. The page on REGOs:

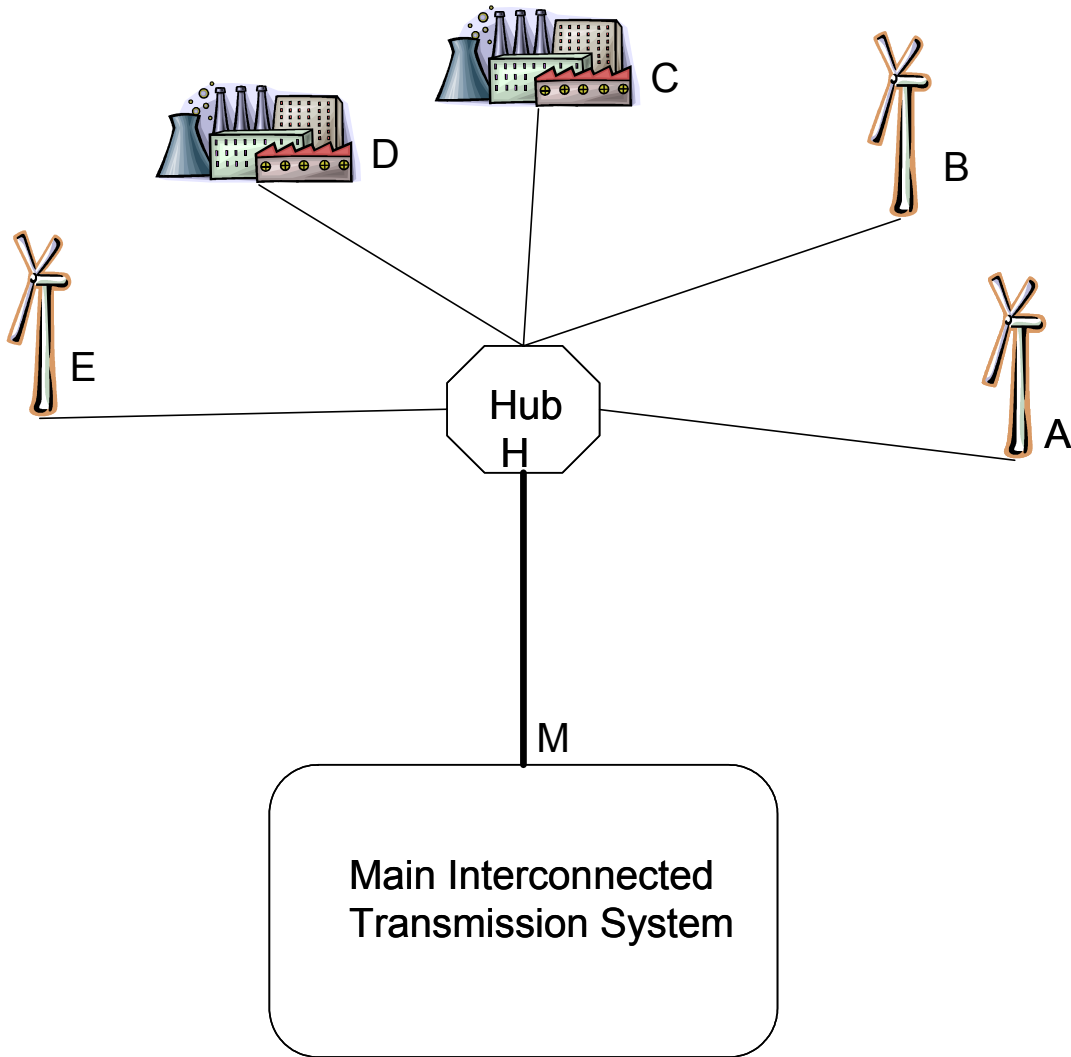
<http://www.ofgem.gov.uk/SUSTAINABILITY/ENVIRONMNT/REGOS/Pages/REGOs.aspx>

provides an introduction to the subject as well as further references to the regulations themselves at

<http://www.opsi.gov.uk/si/si2003/20032562.htm>

End of ANNEX 5

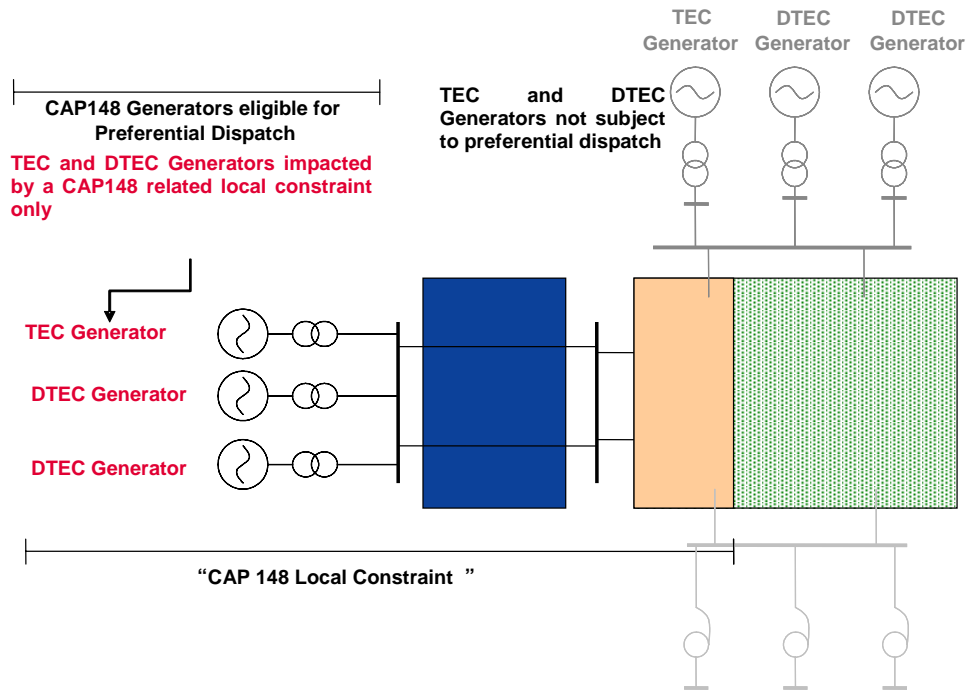
ANNEX 6 - ILLUSTRATION OF LOCAL AND WIDER WORKS



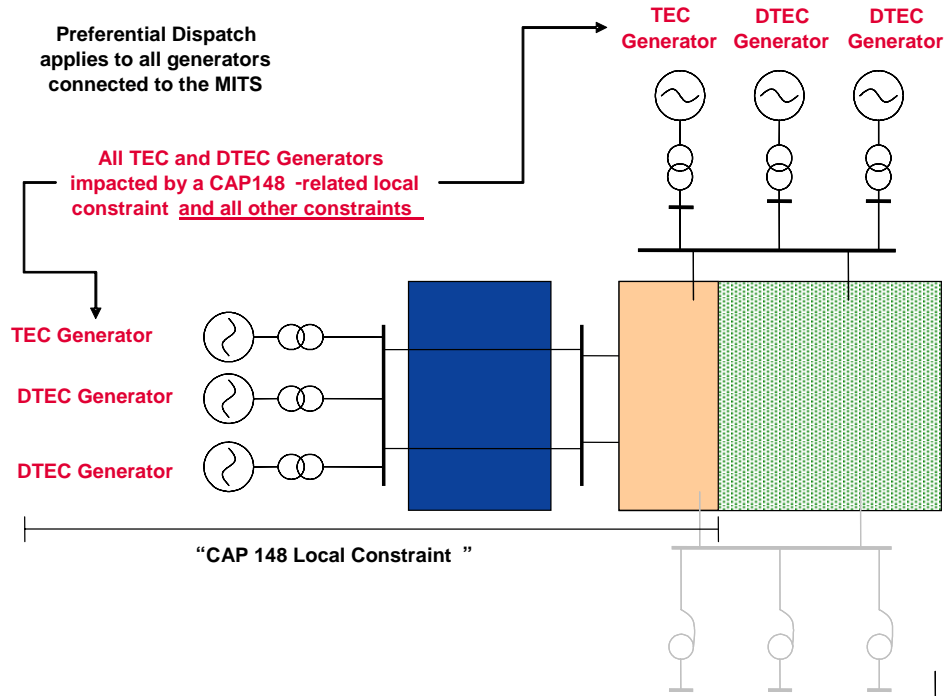
End of ANNEX 6

ANNEX 7 - CONSTRAINTS IDENTIFICATION AND INTERACTION

Annex 7a Proposer's Initial Model of CAP148– Preferential Dispatch



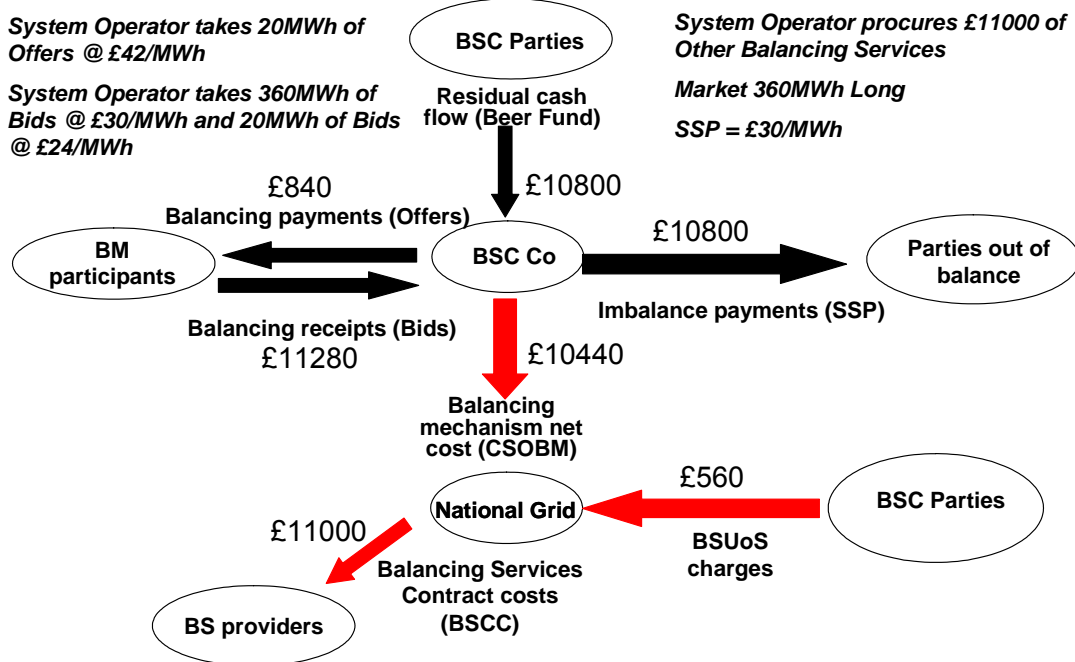
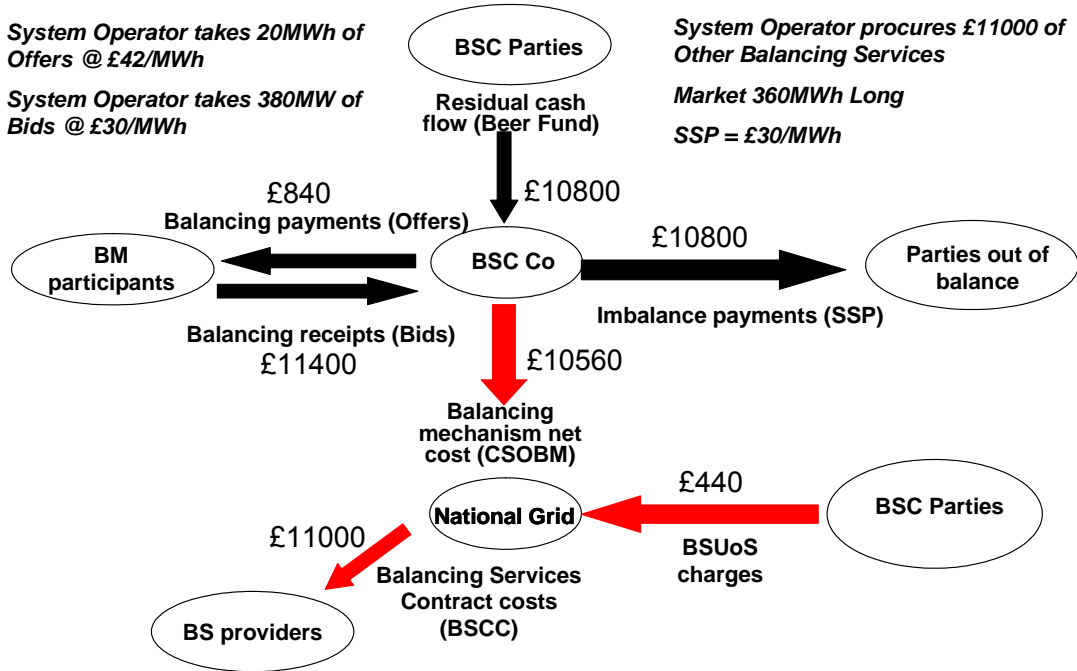
Annex 7b - Final Model of CAP148- Preferential Dispatch



End of ANNEX 7

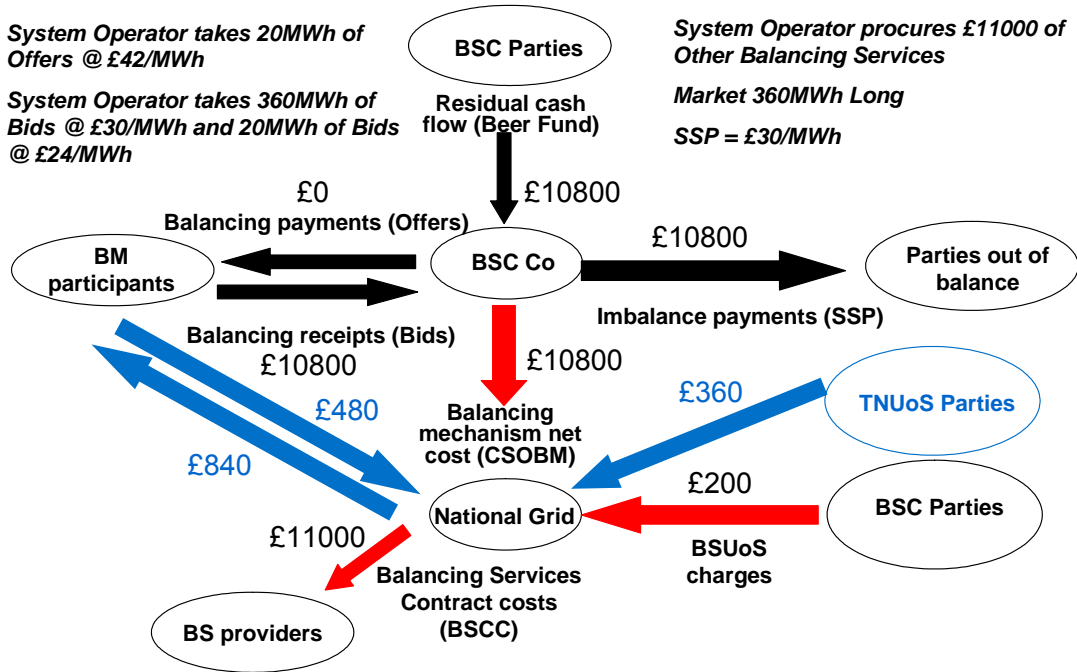
ANNEX 8 - CONSTRAINT MANAGEMENT AND MONEY FLOW

Scenario 1: BSUoS & Related Industry Cash Flows Unconstrained; Long Market

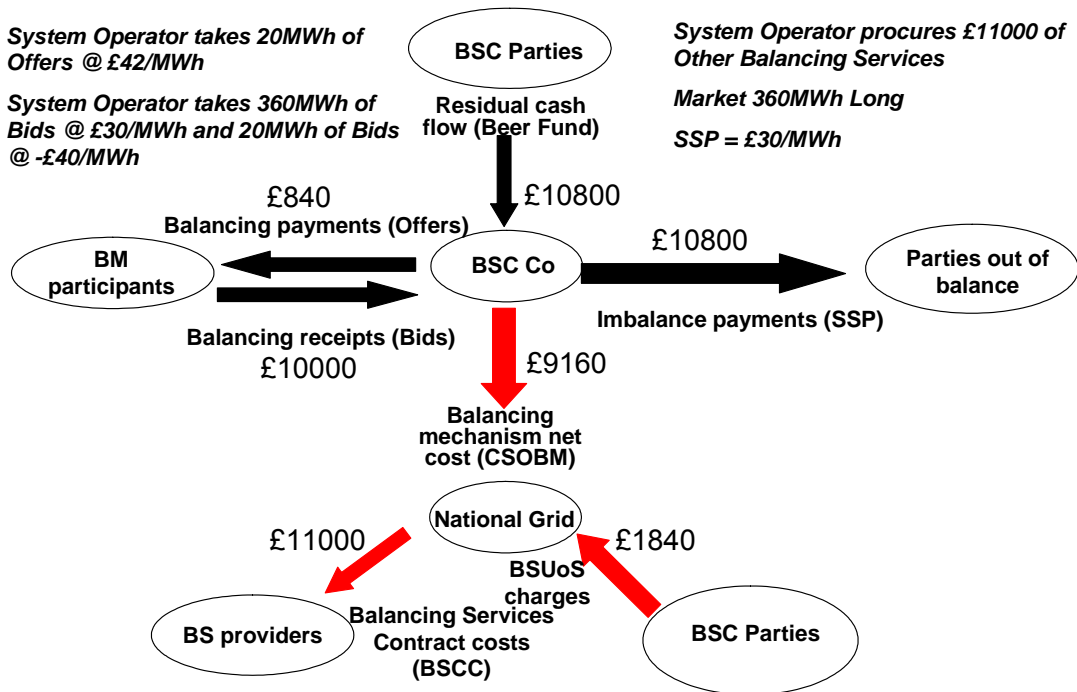


Scenario 2: BSUoS & Related Industry Cash flows: Example 1a – 20MWh constraint; Long Market

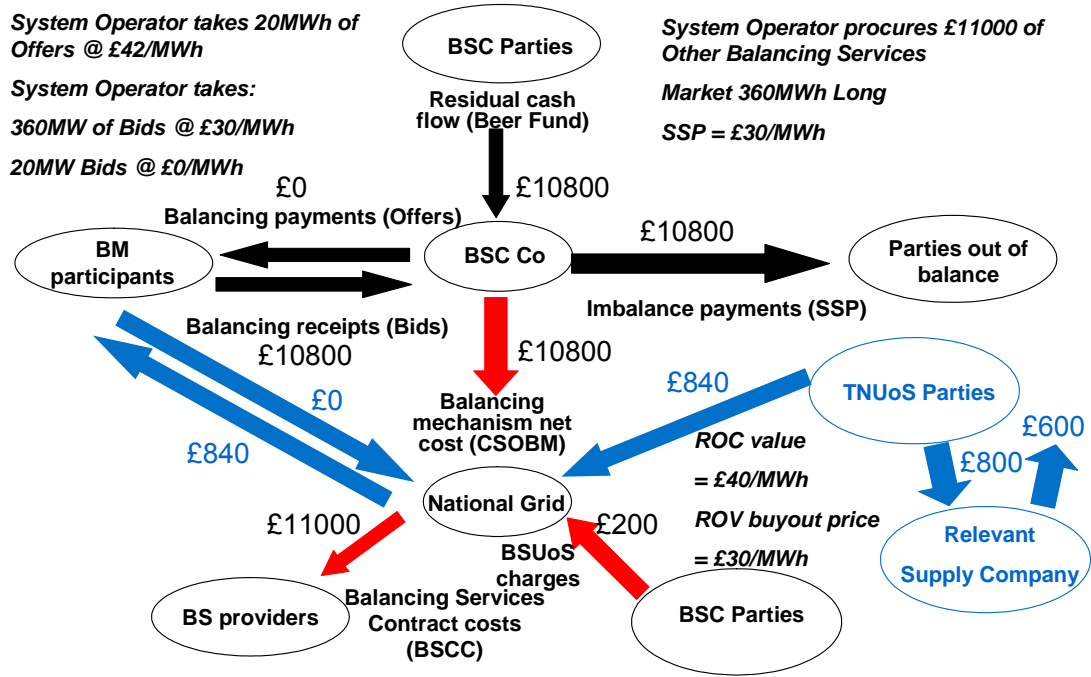
Scenario 3: BSUoS & Related Industry Cash flows: Example 1b – As example 1a with CAP148



Scenario 4: BSUoS & Related Industry Cash flows: Example 2a – 20MWh wind constraint; Long



Scenario 5: BSUoS & Related Industry Cash Flows Example 2b – As example 2a with CAP148



End of ANNEX 8

ANNEX 9 - ILLUSTRATIVE CALCULATIONS OF IMPACT OF CAP 148 ON CONSTRAINT COSTS

Annex 8-1 Assumptions	
Connections	Connection Capacity and current connection date is from current TEC Register
	Beyond 2016 it is assumed that a constant connection rate is achieved
	Post Cap 148 implementation it takes 3 years before the effects start to be seen, i.e. first increase is 2011
	The range of advancements is 25%, 50%, or 100% of plant is advanced by 3 years
Constraints	Typically at the moment Scotland is modelled as two constrained zones, each active 10% of the time but out of phase with each other; therefore the combination into one zone gives a 15% minimum. The whole of Scotland is considered as one constraint zone with active constraints 15% of the time; every additional MW of DTEC would therefore be potentially fully constrained 15% of the time. Incidence of constraint increases dramatically with small increases in generation; 500 MW increase in generation increases the incidence of constraints from 10% to 35%, although not all of the additional generation would be constrained 35% of the time. No account is taken of nesting of constraints
	Cost of constraint is typically £65/MWh including constrained on costs
	Assumed load factor for new plant is 40%
	Assumed only conventional plant is constrained

Annex 8-2 Factors likely to lead to reduction in additional constraint costs	
Development	Not all projects with connection agreements will reach operation
	Advancement of 100% of projects is unlikely because of other factors such as planning for the generation projects
	Delays in Beaulieu-Denny may push queue further back anyway
Constraints	National Grid will have foresight of likely constraints and will seek to manage via LT contracts

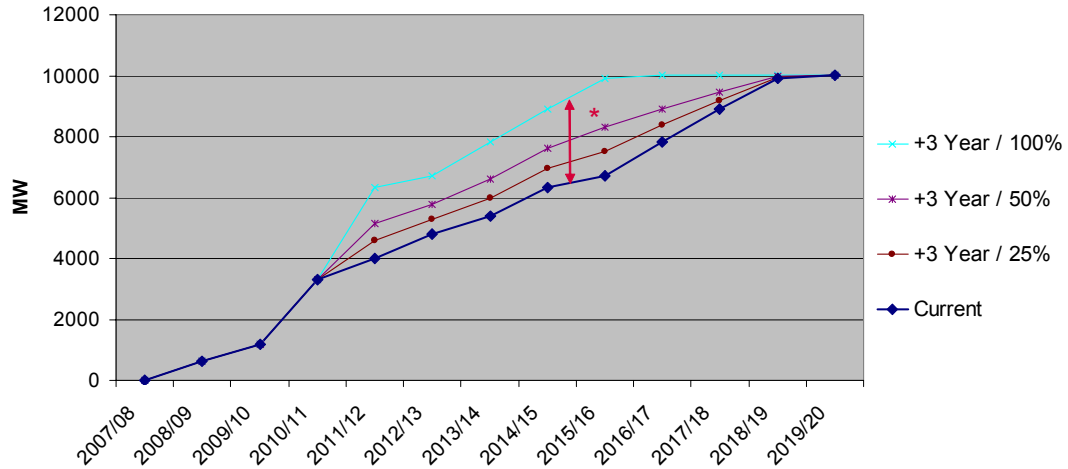
Annex 8-3 Factors likely to lead to increase in additional constraint costs	
	No account taken of additional outage costs for wider infrastructure costs
	Availability of DTEC will stimulate eligible projects to come forward
	For more frequently constrained plant, bids may not cover fixed costs

Annex 8-4 Factors that may affect costs in either direction	
	LCPD opted out plant will be using up power station hours with unknown impact on BOAs
	EU-ETS beyond 2012 has unknown impact on technology competitiveness

Annex 8-5 Volumes and Costs for 3 Year Advancement		
% Projects advanced	Volume of Constraints GWh	Cost of Constraints £m
100%	8337	542
50%	4169	271
25%	2084	135

Volumes associated with a 3 year advancement

Potential volume for connect & manage with 3 year lead time starting from 2008, take up based on % backloaded ignoring local works



* Volume is the increase from current connection rate

Annual costs

- The table shows the distribution costs over the connection period by percentage opting for a 3 year advancement
- 3 years is not linked to the 3 waiting period in Cap 148 original
- Figures are in £m / per annum

Projects advancing	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Total cost £/m
100%	79	65	83	89	109	75	38	3	542
50%	39	33	42	44	55	38	19	2	271
25%	20	16	21	22	27	19	9	1	135

Assumptions

- ◆ The tables show the distribution of additional capacity and constrained volume for the 50 percent scenario
- ◆ Figures are in MW and GWh respectively

Projects advancing MW	2011/ 12	2012/ 13	2013/ 14	2014/ 15	2015/ 16	2016/ 17	2017/ 18	2018/ 19
50%	1154	955	1221	1303	1600	1100	550	50

- ◆ This converts to a constraint volume using the following :
Capacity * constraint incidence (0.15) * Load factor (0.4) *8760

Projects advancing	2011/ 12	2012/ 13	2013/ 14	2014/ 15	2015/ 16	2016/ 17	2017/ 18	2018/ 19	Total
50%	606	502	641	685	841	578	289	26	4169

End of ANNEX 9

ANNEX 10 - REPRESENTATIONS RECEIVED ON THE DRAFT AMENDMENT REPORT

This Annex includes copies of any representations received following circulation of the Draft Amendment Report (circulated on 13 November 2007, requesting comments by close of business on 20 November 2007).

Representations were received from the following parties:

No.	Company	File Number
1	EDF Energy	CAP148-AR-01
2	Scottish and Southern Energy plc (SSE)	CAP148-AR-02

Reference	CAP148-AR-1
Company	EDF Energy

From: Scott, David (Grosvenor Place) [mailto:David.J.Scott@edfenergy.com]
Sent: Monday, November 19, 2007 3:46 PM
To: Viney, Beverley
Subject: RE: CAP148 - Draft Amendment Report

Hi Beverley

EDF Energy's response is a little confused with the inclusion of "*Would not achieve significant volumes connecting early*". This statement is only true if NGET's initial charging proposals were implemented. It is clearer without the inclusion of that point.

Thanks

Reference	CAP148-AR-2
Company	Scottish and Southern Energy plc (SSE)

From: Garth.Graham@scottish-southern.co.uk [mailto:Garth.Graham@scottish-southern.co.uk]
Sent: Friday, November 16, 2007 2:33 PM
To: Viney, Beverley
Cc: Macleod, Lillian
Subject: Re: CAP148 - Draft Amendment Report

Beverley,

Reference the CAP148 report I have two comments.

Firstly, I'm content that the "Draft for Comment" report of 13th November fairly reflects the Consultation responses received.

Secondly, I note the comments in paragraph 4.81 of the report, namely:-

"The Maintenance of the Reliability & Safety of the Grid

The WG noted that Article 7 of the EU Renewables Directive 2001/77 (the cornerstone of CAP148 proposal) refers to "without prejudice to the maintenance of the reliability & safety of the grid". The WG agreed that it would be for NG to advise Ofgem in the Final Amendment Report if, in their opinion, either the original amendment proposal or any Working Group Alternative Amendments or any Consultation Alternative Amendments would be prejudicial "to the maintenance of the reliability & safety of the grid" "

I cannot see in the report where National Grid has addressed this matter. I believe it would be helpful for the Panel and Ofgem if National Grid could address this matter in the report.

Subject to this second item being addressed I'm happy with the CAP148 "Draft for Comment" report.

Regards

Garth

End of ANNEX 10

End of Amendment Report