# AMENDMENT REPORT VOLUME 1

## CUSC Amendment Proposal CAP165

## Transmission Access – Finite Long Term Entry Rights

***The purpose of this report is to assist the Authority in their decision of whether to implement Amendment Proposal CAP165***

| | |
|---|---|
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| Prepared by | National Grid |

# I DOCUMENT CONTROL

## a National Grid Document Control

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| 0.2 | 19/12/08 | National Grid | Draft for Panel Comment following Panel Vote |
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## b Distribution

| Name | Organisation |
|---|---|
| The Gas and Electricity Markets Authority | Ofgem |
| CUSC Parties | Various |
| Panel Members | Various |
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# II CONTENTS TABLE

# 1.0 SUMMARY AND RECOMMENDATIONS

## Executive Summary

1.1 CAP165, Transmission Access – Finite Long-term Entry Rights, was proposed by National Grid and submitted to the CUSC Amendments Panel for consideration at their meeting on 25 April 2008. CAP165 seeks to temporally define finite long-term entry rights to access the transmission system and the associated User commitment.

1.2 The CAP165 original proposal is based on long-term entry access rights being defined on a zonal basis, such that each User can share transmission capacity between its or other power stations on a real time basis at a 1:1 exchange rate within defined zones.

1.3 The CAP165 original proposal includes the following main features for access to the wider transmission system:

- Long-term entry access is defined as a number of (whole financial) years, nominated by the generator;
- The user commitment associated with long-term entry access rights is a liability to pay the associated charges, with the associated security arrangements to be developed by the Working Group in accordance with the Best Practice Guidelines for Gas and Electricity Network Operator Credit Cover;
- The rights can be extended by application at any time;
- New generators (and any existing generators requesting an increased level of long-term entry access) will be required to book a defined period of years of rights (the "trigger period") and provide the associated user commitment (which may be approximately equivalent to 50% of the costs). This will replace the existing "final sums" regime;

1.4 The CAP165 original proposal also includes separate arrangements for infrastructure comprising generators' local connections, including the appropriate User commitment (which may be approximately equivalent to 100% of costs).

1.5 Following consideration of CAP165 by the Working Group, seven Working Group Alternative Amendments were proposed:

- **Working Group Alternative Amendment 1** (WGAA1) was proposed by National Grid, and represents only a minor change to the original, in that transmission access rights would be defined on a nodal, rather than zonal, basis;
- **Working Group Alternative Amendment 2** (WGAA2) was proposed by a Working Group member and features a system of fixed cost reflective final sums to give pre-commissioning User commitment. Access rights would be defined on a nodal, rather than zonal, basis;
- **Working Group Alternative Amendment 3** (WGAA3) was proposed by a Working Group member and features a four year rolling commitment period for post-commissioning generators. Access rights would be defined on a nodal, rather than zonal, basis;
- **Working Group Alternative Amendment 4** (WGAA4) was developed from a consultation request and features an enduring right with a four year minimum booking for new users and a fifteen month notice for reduction in TEC;
- **Working Group Alternative Amendment 5** (WGAA5) was developed from a consultation request and features an eight year rolling

commitment, fixed cost reflective final sums to give pre-commissioning liability with scaled pre commissioning security;

- **Working Group Alternative Amendment 6** (WGAA6) was developed from a consultation request and is based on WGAA3 with a two year notice period; and
- **Working Group Alternative Amendment 7** (WGAA7) was developed from a consultation request and is based on WGAA3 with user commitment being restricted to the period seven years prior to the completion date.

**Working Group Recommendation**

1.6 The Working Group believed its Terms of Reference had been completed and that CAP165 has been fully considered subject to legal text. The Working Group recommended to the CUSC Panel that:

- A Consultation Report containing the CAP165 Original Amendment, WGAA1, WGAA2, WGAA3, WGCR1, WGCR2, WGCR3 and WGCR5 should proceed to wider Industry Consultation as soon as possible.
- The Working Group Report is accepted by the CUSC Panel and the Working Group is disbanded.

1.7 The Working Group voted on whether they believed the original, the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the current baseline**. The results of the vote are described in the following table:

| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | 3 | 9 | 0 |
| **WGAA1** | 2 | 10 | 0 |
| **WGAA2** | 4 | 8 | 0 |
| **WGAA3** | 6 | 6 | 0 |
| **WGCR1 (WGAA4)** | 6 | 6 | 0 |
| **WGCR2 (WGAA5)** | 5 | 7 | 0 |
| **WGCR3 (WGAA6)** | 6 | 6 | 0 |
| **WGCR4** | 2 | 10 | 0 |
| **WGCR5 (WGAA7)** | 6 | 6 | 0 |
| **WGCR6** | 2 | 7 | 3 |

1.8 The Working Group voted on whether they believed the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the original proposal**. The results of the vote are described in the following table:

| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | - | - | - |
| **WGAA1** | 11 | 1 | 0 |
| **WGAA2** | 6 | 5 | 1 |
| **WGAA3** | 11 | 1 | 0 |
| **WGCR1 (WGAA4)** | 9 | 2 | 1 |
| **WGCR2 (WGAA5)** | 6 | 6 | 0 |
| **WGCR3 (WGAA6)** | 10 | 2 | 0 |
| **WGCR4** | 5 | 6 | 1 |
| **WGCR5 (WGAA7)** | 8 | 4 | 0 |
| **WGCR6** | 3 | 8 | 1 |

1.9 The majority of the Working Group believed WGAA1, WGAA3, WGCR1, WGCR3 and WGCR5 were better than the original. The Chair with the support of the Working Group took forward proposals which had 6 votes in support. This means that WGAA2 and WGCR2 have also been taken forward.

1.10 The Working Group voted on which of the proposals they believe best facilitates the applicable CUSC Objectives. The results of this vote is described in the following table:

| Proposal | Best |
|---|---|
| **Original** | 0 |
| **WGAA1** | 1 |
| **WGAA2** | 2 |
| **WGAA3** | 2 |
| **WGCR1 (WGAA4)** | 3 |
| **WGCR2 (WGAA5)** | 1 |
| **WGCR3 (WGAA6)** | 0 |
| **WGCR5 (WGAA7)** | 3 |

**National Grid's Recommendation**

1.11 National Grid's view is that all of the proposed alternatives and the CAP165 original amendment would better facilitate the applicable CUSC objectives when compared against the current baseline. This is due in the most part to the fact that all of the options presented would either:

(a) offer a finite right and with it the ability to accurately account for the rescission of long term rights by an existing generator when planning transmission works on the GB Transmission System or;
(b) the fact that the proposed notice periods to be given by existing users to rescind existing transmission access rights (a range from 15 months to 8 years) would be significantly in excess of the current 5 day minimum requirement.

1.12 Other Alternatives also propose an equitable system of liabilities for pre- and post-commissioning generators, again another benefit that would in National Grid's view better facilitate applicable CUSC objective (b).

1.13 National Grid is not generally in favour of the amendments which utilise a Pre Commissioning Liability. While National Grid is generally content to forecast Final Sums liabilities at the time that a connection offer is prepared we are not content with the proposal that if actual liabilities incurred are less than forecast then the difference is refunded to the User whereas if actual liabilities are in excess of forecast that liability is borne by National Grid and thence the industry. This in National Grid's view would mean that in the long term this would either cause a general under-recovery of pre-commissioning liabilities from terminating Users and thus result in a cross subsidy of new users by existing users. Alternatively the proposal would drive National Grid to very conservatively forecast Pre Commissioning Liabilities and thus require new Users to provide greater amounts of pre-commissioning security, which could be perceived as a barrier to entry, frustrating applicable CUSC objective (b).

1.14 National Grid has also stated through the Working Group discussions that a six year signal of the rescission of long-term rights would be required. This is based upon an normal 6-year lead time for the specification, planning and construction of transmission construction works. From a purely transmission perspective then any alternative that does not give a minimum of a 6 year signal will inevitably result in less than the theoretical maximum saving in transmission works being able to be achieved. However National Grid also recognises that there may be financial benefits associated with a shorter notice period for generators although National Grid is unable to quantify this impact and thus judge the overall optimal notice period for the industry as a whole.

1.15 On balance National Grid's recommended option is therefore WGAA1.

**Amendment Panel's Recommendation**

1.16 The CUSC Panel voted on whether they believed the original and the Working Group alternatives were better than the current baseline. The results of the vote are described in the following table:

| Proposal | Better | Not better |
|---|---|---|
| **Original** | 0 | 8 |
| **WGAA1** | 1 | 7 |
| **WGAA2** | 1 | 7 |
| **WGAA3** | 3 | 5 |
| **WGAA4** | 6 | 2 |
| **WGAA5** | 1 | 7 |
| **WGAA6** | 6 | 2 |
| **WGAA7** | 5 | 3 |

1.17 The majority of the Panel believe WGAA4, WGAA6 and WGAA7 are better than the current baseline. The majority of the Panel do not believe the Original, WGAA1, WGAA2, WGAA3 or WGAA5 are better than the current baseline.

1.18 The CUSC Panel voted on which of the proposals they believe best facilitates the applicable CUSC Objectives. The results of this vote is described in the following table:

| Proposal | Best |
|---|---|
| **Original** | 0 |
| **WGAA1** | 1 |
| **WGAA2** | 0 |
| **WGAA3** | 0 |
| **WGAA4** | 5 |
| **WGAA5** | 0 |
| **WGAA6** | 0 |
| **WGAA7** | 2 |

1.19 The majority of the Panel believe WGAA4 best facilitates the applicable CUSC objectives

1.20 A number of Panel Members expressed concerns about the process that had been followed for the suite of modifications related to the transmission access review. The Panel agreed that a discussion covering these concerns along with lessons learned and consideration of how the conclusions are best communicated to the wider industry will take place at the Panel meeting in February. This will align with the completion of CAP166 and consideration of the interaction between modifications and the associated changes to the Charging Methodologies. The conclusions of this discussion will be forwarded to Ofgem such that they can feed into their assessment of the modifications, and potentially their wider work on Codes Governance.

## 2.0 PURPOSE AND INTRODUCTION

2.1 This Amendment Report has been prepared and issued 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. It addresses issues relating to the allocation of finite transmission access rights.

2.2 Further to the submission of Amendment Proposal CAP165 (see Annex 3) 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 CAP165

**The Transmission Access Review Working Groups**

2.3 CAP165 was proposed by National Grid and submitted to the Amendments Panel for their consideration on 25th April 2008.

2.4 In a change from normal practice, CAP165 was one of six Amendment Proposals which the CUSC Amendments Panel divided between two Working Groups under the banner of the Transmission Access Review. Working Group 1 has considered CAPs 161-164 and Working Group 2 CAPs 165 and 166. The Panel also directed the formation of a third Working Group (known as "Working Group 3") to assess some enabling changes which underpin a number of these CAPs related to transmission charging proposals under the Transmission Charging Methodologies Forum (TCMF).

2.5 A combination of two, or more of these six CAPs collectively or, potentially in the case of Connect and Manage, individually, could be considered to constitute a model of transmission access reform. At the time of the original six proposals there were broadly speaking three models: (i) Connect and Manage (CAP164); (ii) Evolutionary Change (CAPs 161, 162, 163 and 165); and (iii) Evolutionary Change with auctions (CAPs 161, 162, 163 and 166). However, the intention is that all six CAPs can be implemented individually or in certain combinations with each other.

2.6 The Working Groups have also been constituted to deliberate on related transmission charging proposals under the Transmission Charging Methodologies Forum (TCMF). This consultation is concerned with the CUSC-related issues of CAP165, although references are made to charging where this aids understanding of the proposed Amendment. Charging issues are being consulted on in a parallel pre-consultation.

2.7 The Amendments Panel agreed that Working Group 2 would work towards submitting a report on CAP165 back to the CUSC Panel within 3 months, inclusive of a period of Working Group Consultation. An extension of 2 months to this timetable was granted by the CUSC Panel on 25 July 2008 after a request from the Chair of Working Group 2. Furthermore, the Authority's approval of CAP 160 during the assessment period alters the way in which the Working Group considers Alternatives raised in the consultation process.

2.8 Working Group 2 first met on 14 May 2008. At the first meeting the members of the Working Group amended and agreed the Terms of Reference. A copy

of the Terms of Reference, subsequently accepted by the June CUSC Panel, is provided in Annex 1.

2.9 Working Group 2 also agreed an initial work plan, which was revised and extended as required during the Working Groups' work.

2.10 Working Group 2 considered the issues raised by CAP165 and considered whether the amendment proposal, and some suggestions for potential Working Group Alternatives, better facilitated the Applicable CUSC Objectives as compared with the current version of the CUSC. Working Group 2 met 21 times during the assessment period for CAP165 and attendance is recorded for voting purposes in Annex 3. Each Working Group meeting was attended by CUSC Party-nominated members or their alternates, and invited experts.

2.11 Working Group 2 also drew on discussion in Working Group 3 mainly regarding the definition of local works. These discussions are covered in this report as Working Group 2 adopted them as part of CAP165 Original and its seven WGAAs.

2.12 The CAP165 Working Group Report was submitted to the CUSC Amendments Panel meeting on 21 November 2008. Following evaluation and consultation by the Working Group, the Amendments Panel determined that CAP165 was appropriate to proceed to wider industry consultation by National Grid.

2.13 Following the completion of the consultation referred to in 2.12 above, 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. Copies of each of the responses to the consultation are included in Volume 2 of this document.

2.14 This Consultation document has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid Website, www.nationalgrid.com/uk/Electricity/Codes/.

## 3.0 PROPOSED AMENDMENT

3.1 This section describes National Grid's original amendment proposal and includes clarifications that have resulted from Working Group discussions. The full text of the original amendment proposal can be found in Annex 3.

## 3.2 Defect

3.2.1 This amendment proposal seeks to address a number of defects which in the view of the proposer of CAP165, exist with the current entry access arrangements.

3.2.2 The current transmission access arrangements, for post-commissioning generators do not provide any certainty for Transmission Owners, in that such Users have a rolling option to renew their rights to access the transmission system on an annual basis. Should they wish to decline this option, they have the ability to give as little as five days' notice. This uncertainty can lead to inefficient investment signals for transmission assets in that the planning of incremental capacity can take little, if any, account of the potential future release of existing capacity. The ability to reallocate existing capacity would address this defect, and would also promote effective competition in the generation of electricity, in that new entry would be facilitated through the certain release of existing rights.

3.2.3 The current final sums arrangements for receiving User commitment and security from pre-commissioning Users have a number of defects which this amendment aims to rectify:

- The final sums arrangements are defined outside the commercial frameworks so do not provide transparency.
- Final sums leave the total risk on the newly connecting User so the level can be perceived as a barrier to entry.
- As final sums are directly linked to actual project costs, and to the presence of other prospective connectees, they also have a level of volatility which may be unacceptable to some new Users.

## 3.3 Principles

3.3.1 This CAP165 amendment proposal seeks to introduce temporally defined finite long term entry access rights, and associated User commitment. This would reform the current arrangements for both pre- and post-commissioning generators when they access the transmission system.

3.3.2 It is proposed that existing generators would nominate the number of (whole financial) years for which they require long-term entry access rights to the GB transmission system. This would be underpinned by User commitment in the form of a liability to pay associated charges. The commitment would be for any period requested by the User (i.e. there would be no rolling time limit), and rights could be extended by application at any time.

3.3.3 Pre-commissioning generators (and any post-commissioning generators requesting an increased level of long-term entry access) requiring transmission works to be undertaken in order to be connected to the transmission system would be required to book a defined minimum number of years of entry access rights, and provide the associated User Commitment (which would be approximately equivalent to 50% of the cost of providing the incremental capacity). This would replace the existing final sums and interim generic User Commitment regime.

3.3.4 The above requirements would apply to access to the wider transmission system. Separate arrangements would be put in place for infrastructure comprising generators' local connections to the wider system. The User Commitment arrangements would be consistent with the arrangements for wider access. The interaction between local and wider works is considered in further detail in section 3.6 of this report.

3.3.5 It is further proposed that long-term entry access rights to the transmission system be defined on a zonal basis, such that each User can share capacity between its power stations within that zone on a real time basis at a 1:1 exchange rate within that defined zone. These zones are based on the output of Working Group 3 discussions.

3.3.6 The proposer of CAP165 believes that, as pre- and post-commissioning generators would be required to provide equivalent liabilities for wider access, equitable treatment of the two groups would be ensured. The finite aspect of the transmission access rights would help to provide better investment signals to TOs and would allow existing capacity to be reallocated. In addition, replacement of the current final sums methodology with the booking of a trigger period of a minimum number of years' worth of entry capacity access rights would promote transparency and certainty.

**Connection Process**

3.3.7 Under CAP165 Users applying for new or increased wider transmission entry access rights will apply using the existing application process as currently defined in the CUSC. However, the user would apply for the access rights on a zonal basis rather than at a node.

3.3.8 When the application has been received by National Grid, an offer will be made within 3 months which will include a Completion Date (the date at which the User will be entitled to firm rights to use the transmission system and be liable for Generation TNUoS charges). This will be the earliest time, in National Grid's best view, that the relevant transmission capacity to accommodate this user can be delivered.

3.3.9 The offer will also contain a Trigger Date. The Trigger Date is defined by National Grid as GBSO and specified in the Construction Agreement such that the Completion Date can be achieved and will be no more than 4 years prior to the Completion Date. Whilst the intention is to accurately define the Trigger Date at the outset, the date may vary to reflect delays to the construction programme or construction works. It is further dependent on whether consents are required for the transmission construction works.

3.3.10 Where the delivery of the Completion Date requires construction works and no consents are needed, and the Completion Date is more than 4 full years from the date of the Offer, the Trigger Date is 4 full years from the Completion Date. Where the Completion Date is within 4 full years, the Trigger Date will effectively become the last date upon which the User can accept its offer.

3.3.11 Where consents are required, if the consents are forecast to be granted more than four years before the Completion Date then the Trigger Date is four full years from the Completion Date. If the consents are forecast to be granted less than four years before the Completion Date the Trigger Date is the date that consents are forecast to be granted.

## 3.4 User Commitment Liabilities for Pre-Commissioning Generators

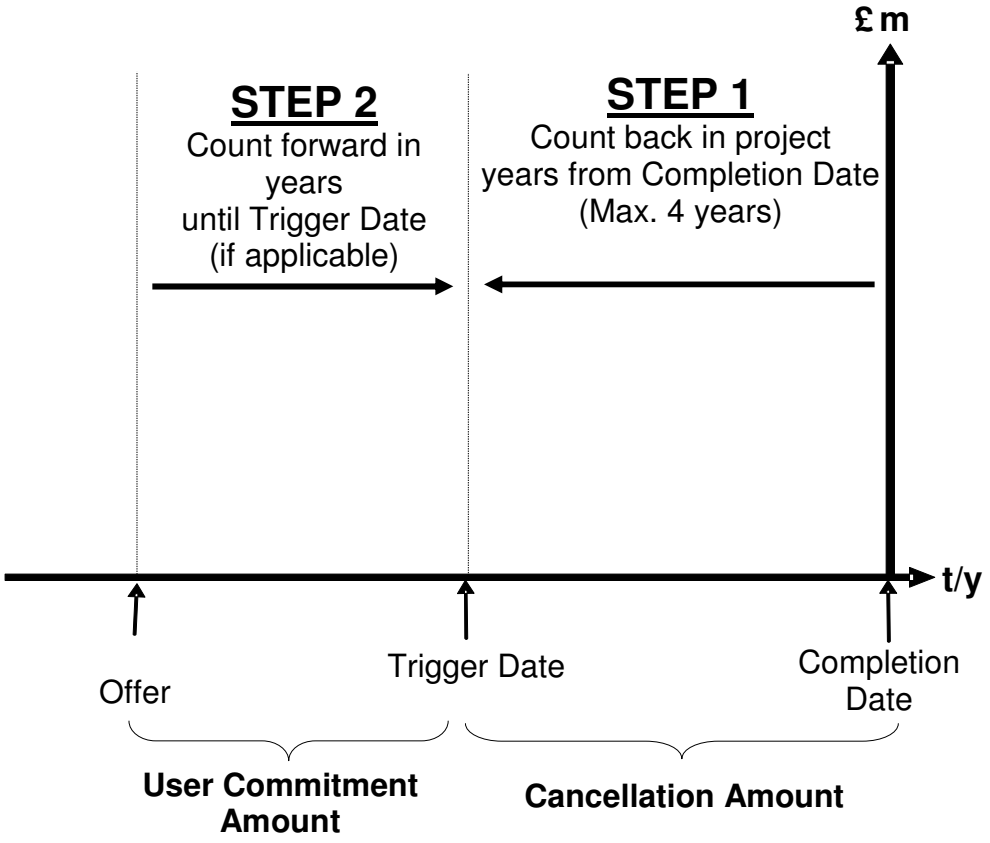
3.4.1 The CAP165 proposed arrangements for pre-commissioning generators (and for post-commissioning generators that request additional wider entry access rights) requiring transmission works seek to replace the current liabilities for cost reflective final sums with non-refundable generic liabilities. An aim would also be to share the risk of inefficient investment associated with generation termination between the generators that introduce risk, and all other Users.

3.4.2 The generic liabilities incurred would be a non-refundable termination charge equal to a multiple of the relevant generation TNUoS tariff. It is envisaged that the multiplier could be recalculated in subsequent transmission price control periods, but initially would be set at eight; i.e. 8 x TNUoS. These arrangements are very similar to those proposed under CAP131 (which uses a multiplier of six). However, the key difference between CAP131 and CAP165 is that under CAP165, this multiplier would set not just the termination liability pre-commissioning but also the minimum number of years of wider entry access rights to the transmission system that must be booked following commissioning. Therefore, under CAP165 the potential termination liability immediately prior to commissioning and immediately post commissioning would be equivalent (at eight years' worth of TNUoS). Further details regarding the post commissioning User commitment are considered later in this report.

3.4.3 These arrangements would only apply to wider transmission entry access rights. Separate, but similar, arrangements would apply to infrastructure comprising generators' local connections to the wider system. Additionally, for parties not booking entry access rights (e.g. DNOs), the current cost reflective final sums arrangements will continued to be applied for transmission reinforcement works.

3.4.4 The offer will set out two types of payments that would be due in the event of termination: User Commitment Amounts before the Trigger Date, and Cancellation Amounts between the Trigger Date and the Completion Date. The process is illustrated in the diagram below:

Calculation of timescales for pre-commissioning termination payments




3.4.5 It can be expected that following the Trigger Date, the majority of applications for new or increased wider entry access rights will result in a Completion Date within four years. It should be noted that under the CAP165 arrangements, National Grid will retain the right in the Construction Agreement to delay the Completion Date owing to unforeseen circumstances beyond its control.

**User Commitment Charge**

3.4.6 Between the Offer Date and Trigger Date, termination of wider transmission entry access rights requested would result in the levying of a User Commitment Charge based on User Commitment Amounts. The User Commitment Charge will be non-refundable.

3.4.7 User Commitment Amounts would be calculated using a generic methodology, based on a value of £1/kW commencing upon signature of the Construction Agreement. This would increase by £1/kW following each full year up to the Trigger Date, subject to a cap of £3/kW. Should a User terminate its Construction Agreement prior to the Trigger Date the User's User Commitment Charge would therefore be calculated as follows:

*User Commitment Charge* $= TEC_r \times UCAM_t$

Where:

- *TEC* is the reduction in wider entry access rights in kW.

- $UCAM_t$ is the relevant User Commitment Amount which varies according to the number of full years from the Offer Date:
  - In the first year (i.e. t =1) $UCAM_t = Min$ *(£1/kW, TA x 25%)*, where TA is the Termination Amount (see below);
  - Where t = 2, $UCAM_t = Min$ *(£2/kW, TA x 25%)*; and
  - Where t ≥ 3, $UCAM_t = Min$ *(£3/kW, TA x 25%)*.

3.4.8 In negative TNUoS charging zones or zones with marginally positive charges 25% of the Termination Amount described below will be less than £3/kW. In such zones User Commitment Amounts would be capped to 25% of the Termination Amount. This would lead to User Commitment Amounts being zero in negative charging zones.

3.4.9 User Commitment Amounts where they are calculated by reference to TNUoS tariffs will be calculated and fixed at the time the connection offer is signed. The actual TNUoS tariff used will be that TNUoS tariff that would have prevailed on the last day that that offer could have been signed.

**Cancellation Charges**

3.4.10 Under CAP165 once the Trigger Date has been reached, termination of wider transmission entry access rights requested would result in the levying of a Cancellation Charge based on Cancellation Amounts. The Cancellation Charge will be non-refundable.

3.4.11 The Cancellation Amount in each year is a percentage of the Termination Amount, which is the higher of zero and eight times the relevant TNUoS charges. The Cancellation Charge would therefore be calculated as follows:

$$Cancellation\ Charge = TEC_r \times CAM_t$$

Where:

- $TEC_r$ is the reduction in wider transmission entry access rights in kW.
- $CAM_t$ is the relevant Cancellation Amount which varies according to the number of full years from the Completion Date:
  - In the year prior to the Completion Date (i.e. t) *CAM = TA x 100%)*, where TA is the Termination Amount;
  - Where t=-1, *CAM = TA x 75%*;
  - Where t=-2, *CAM = TA x 50%*; and
  - Where t=-3, *CAM = TA x 25%*.

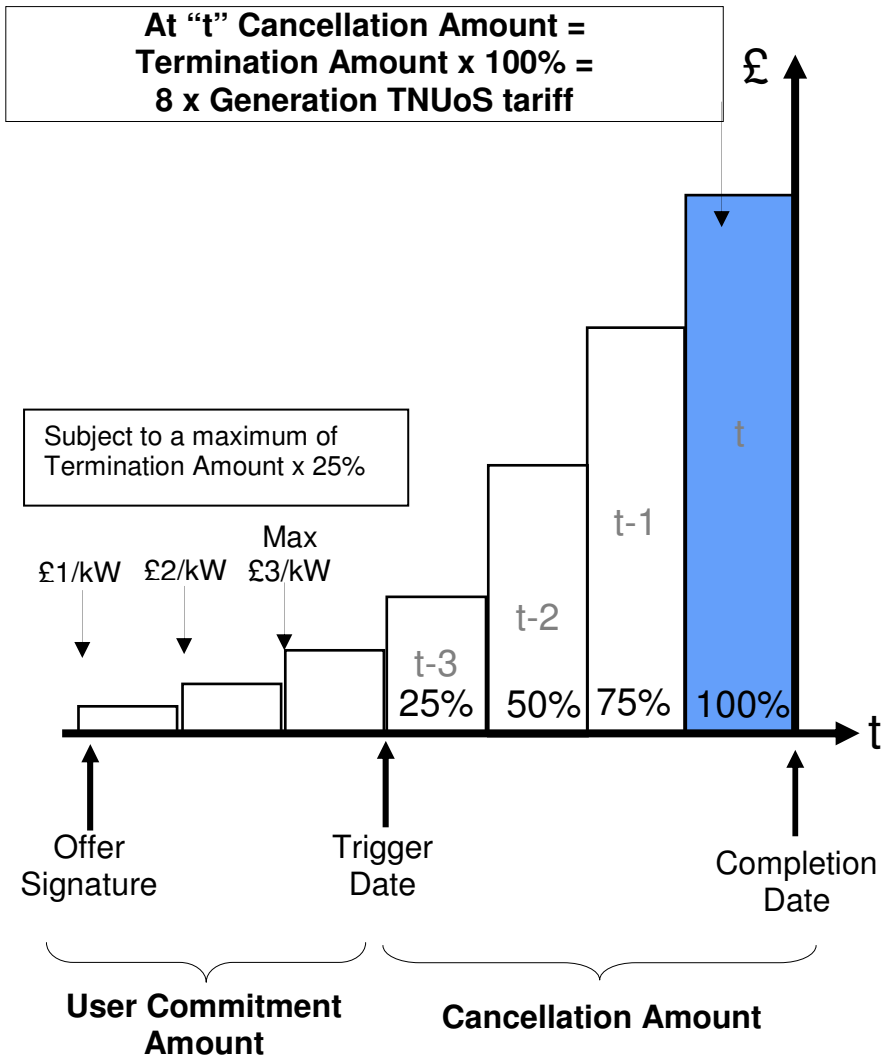
$$Termination\ Amount = Max\ (0, (GenTNUoS_z \times X))$$

Where:

- $GenTNUoS_z$ is the relevant zonal Generation TNUoS tariff calculated and fixed at the time the connection offer is signed. The actual TNUoS tariff used will be that TNUoS tariff that would have prevailed on the last day that that offer could have been signed. If a project is not located in a Generation TNUoS Charging Zone, then the appropriate Generation TNUoS tariff will be calculated by National Grid as part of the application process in accordance with the Charging Methodology.
- *X* is a multiplier, initially taking the value eight, although it may be appropriate that this be amended in subsequent transmission price control periods.

3.4.12 The liabilities described above can be summarised in the diagram below:

Generic capacity reduction Liabilities for new or increased wider entry access rights




3.4.13 Charges based on User Commitment Amounts and Cancellation Amounts would not apply to projects where there are no transmission asset works.

**Capacity Reduction Charges**

3.4.14 In addition to the above charges applicable at termination of a User's Construction Agreement, Capacity Reduction Charges will also become liable if the User reduces its wider transmission access rights prior to the Completion Date or Trigger Date.

3.4.15 Should a User reduce its wider transmission access rights prior to the Trigger Date it shall become liable to pay the following Capacity Reduction Charge:

$$\textit{Capacity Reduction Charge} = UCAM_t \times (TEC - TEC_r)$$

- Where the UCAM is calculated in accordance with 3.4.7 above;
- TEC is the TEC figure (expressed in kW) stated in Appendix C to the Users Bilateral Agreement effective immediately prior to the requested reduction in TEC; and,

- $TEC_r$ is the revised TEC figure (expressed in kW) following the TEC reduction

3.4.16 Should a User reduce its wider transmission access rights on or after the Trigger Date but before the Completion Date it shall become liable to pay the following Capacity Reduction Charge:

$$Capacity\ Reduction\ Charge = CAM_t \times (TEC - TEC_r)$$

- Where $CAM_t$ is calculated in accordance with paragraph 3.4.11
- TEC is the TEC figure (expressed in kW) stated in Appendix C to the Users Bilateral Connection Agreement or effective immediately prior to the requested reduction in TEC
- $TEC_r$ is the revised TEC figure (expressed in kW) following the TEC reduction

**Security**

3.4.17 The introduction of generic User Commitment Charges and Cancellation Charges defined in the CUSC, to replace the existing final sums regime defined in Construction Agreements, will also require the introduction of provisions to define the level of financial security that should be held in relation to these potential liabilities.

3.4.18 CAP165 proposes move the security arrangements from Construction Agreements and to instead add the applicable User Commitment Charges or Cancellation Charges to each User's Security Requirement, as defined in paragraph 3.22.2 of the CUSC. To the extent that these amounts exceed the Allowed Credit extended to each User, Security Cover will need to be provided to National Grid, in any of the forms prescribed in the CUSC.

3.4.19 In the event a Capacity Reduction Charge becomes payable, the amounts secured in respect of the User Commitment Charge or Cancellation Charge will be re-calculated by reference to the new TEC level, post-reduction.

**Transition**

3.4.20 If CAP165 is approved, existing Users will have the choice to remain in their existing security and liability arrangements or to move across onto the new CAP165 arrangements. Users applying for a new connection or an increase in wider transmission access rights post any implementation of CAP165 will be subject to the CAP165 arrangements.

3.4.21 Should existing Users choose to migrate to the new CAP165 arrangements this will require a Trigger Date to be set, and the calculation of User Commitment Charges or Cancellation Charges (as applicable), for all pre-commissioning projects in progress at implementation. The security required for each User will be calculated in accordance with the revised Section 3 of CUSC, and therefore additional Security Cover may be required. Equally, in situations where less cover is required, security will be returned to Users.

3.4.22 All such Users with such projects will be invited to nominate to the number of (whole) financial years worth of wider transmission entry access rights that will be required post-commissioning, subject to a minimum of eight years. This process is described more fully in the next section.

**Changes to the Trigger Date or Completion Date – Impact on Pre-Commissioning Liabilities**

3.4.23 Where the Construction Programme or the Construction Works or Transmission Entry Capacity subsequently change from that in the original Construction Agreement the following principles will apply in respect of reassessing the Trigger Date and the Cancellation Charge.

3.4.24 Where such change is as a result of The Company's exercise of its rights under the Construction Agreement then:

- Where there is a delay to the Completion Date, and the Trigger Date has not passed there will be a corresponding delay to the Trigger Date and the profile of the User Commitment Amount and the Cancellation Amount revised accordingly in line with the above principles. If the Trigger Date has already passed, the profile of the Cancellation Amount will be revised accordingly on the basis of the above principles by reference to the number of full 12-month periods from the new Completion Date.
- Where there is no delay to the Completion Date, but the Construction Works change, The Company will review the appropriateness of the Trigger Date and if appropriate, change this. The profile of the User Commitment Amount and Cancellation Amount will be revised on the principles set out above to reflect the change in Trigger Date.
- Where there is a reduction in a User's Transmission Entry Capacity the Cancellation Charge shall be revised to reflect the reduced MWs.

3.4.25 A revised Appendix R to a User's Construction Agreement will be issued by The Company to the User showing the new profile.

3.4.26 Where such change is as a result of the User's request a revised Appendix R to a User's Construction Agreement will be issued by the Company to the User. Notwithstanding any change in the Construction Works or Completion Date:

- Where the revised Construction Programme alters the period of full years between the date of signature of the original Construction Agreement and the Trigger Date the User Commitment Amount will remain at the amount at the time the user requested the change until it is due to rise based on the revised Appendix R reflecting the revised Construction Programme; or
- The Cancellation Amount will be frozen at the prevailing level and remain at that level for the period of the slippage.

## 3.5 User Commitment for Post-Commissioning Generators

3.5.1 It is proposed, under CAP165, that wider transmission entry access rights for post-commissioning generators will be defined on temporal, as well as capacity, basis. When applying for new, or additional, transmission access rights, Users will be required to nominate for how many years they require such rights. When the provision of these rights requires transmission works, a minimum booking period, equal to the multiplier used to derive the Termination Amount (initially eight years), will apply.

3.5.2 Users will always have the opportunity to apply to extend the period of wider transmission entry access rights held, via a Modification Application. However, with CAP165 they will have no priority or option on such rights, and therefore the rights may have been reallocated to another user in the interim.

3.5.3 Users will be liable for all (TNUoS) charges associated with the full period of their booking. A User that wished to terminate its rights, therefore, would be required to pay a fee as follows:

*Wider Access Cancellation Charge = TEC x Max(0, $GenTNUoS_z$) x n*

Where:

- *TEC* is the User's wider transmission entry access rights in kW.
- $GenTNUoS_z$ is the relevant prevailing zonal Generation TNUoS tariff.
- *n* is the number of years of the booking remaining.

3.5.4 A User that wished to reduce its rights would be required to pay a fee as follows:

*Wider Access Reduction Charge = $TEC_r$ x Max(0, $GenTNUoS_z$) x n*

Where:

- $TEC_r$ is the reduction in wider transmission entry access rights in kW.
- $GenTNUoS_z$ is the relevant prevailing zonal Generation TNUoS tariff.
- *n* is the number of years of the booking remaining.

3.5.5 A User that no longer had a requirement for booked transmission access rights might alternatively decide to trade such rights to another User, and this would be facilitated by the existing provisions of the CUSC.

3.5.6 It is proposed that no transmission access rights would be withdrawn from existing Users in the transition to the CAP165 arrangements. Existing generators with TEC will be offered an equivalent finite long-term wider transmission entry access right. During the CAP165 transition, such generators will be invited to nominate the number of whole financial years for which they require long term transmission access rights. The end date of the rights (always a 31 March) would be recorded in Appendix C of the User's Bilateral Connection Agreement (BCA), or Bilateral Embedded Generation Agreement (BEGA) for embedded generators greater than 100MW.

## 3.6 Interaction between Local and Wider Works

**Definition of Local Capacity Nomination**

3.6.1 It is proposed that a local access product be introduced, separate from wider access rights. The Local Capacity Nomination (LCN) would be the maximum capacity (in MW) to which a generator is entitled to obtain transmission access products (long-term and short-term access products and overrun) within a charging year. It must not exceed the Connection Entry Capacity (CEC) of the generator to avoid damage to the local transmission assets.

3.6.2 LCN access will have the following properties:

- LCN is the term used by a generator to notify National Grid of its desired maximum local capacity holding in a transmission charging year;
- LCN represents the physical (and contractual) cap on the total generators' transmission access (MW) derived from a combination of all long and short-term transmission access products, including overrun;
- LCN will not exceed a generator's CEC;

- LCN is defined on a Power Station basis (consistent with TEC);
- LCN will be allocated on a first-come-first-served basis;
- LCN will be the basis upon which a generators' local asset charge will be calculated and levied; and
- LCN is shareable between generators, when multiple generators agree to share. Any sharing arrangement would be managed with a clause which, in the case of two generators sharing, would restrict one generator if the other generator is using the local connection capacity and vice versa. This approach is similar to that currently adopted to deal with design variation connections.

**Connection Process**

3.6.3 The concept of LCN will be introduced into CUSC Exhibit B: Connection Application. A local connection application will be progressed under the same process as an existing local and wider connection application.

3.6.4 Applications for an increase in LCN may be made by new or existing generators. LCN rights will be enduring, that is to say they will not have a finite end date associated with them, but will endure until the generator signals its intention to National Grid that it wishes to rescind them.

3.6.5 Termination or reduction of the requested LCN prior to the completion date would result in the levying of a Local Cancellation Charge, based on Local Cancellation Amounts. Note that there are no Local User Commitment Charges envisaged as it is deemed unlikely that the works to accommodate LCN will begin in advance of the wider works. The Local Cancellation Charge would be non-refundable.

3.6.6 The Local Cancellation Amount in each year would be a percentage of the Local Termination Amount, which is the higher of zero and eight times the relevant local generation TNUoS charge. The Local Cancellation Charge would therefore be calculated as:

$$\textit{Local Cancellation Charge} = LCN_r \times LCAM_t$$

Where:

- *LCN* is the Local Capacity Nomination in kW.
- $LCAM_t$ is the relevant Local Cancellation Amount which varies according to the number of full years from the Completion Date:
  - In the year prior to the Completion Date (i.e. t) *LCAM = LTA x 100%)*, where LTA is the Local Termination Amount;
  - Where t=-1, *LCAM = LTA x 75%*;
  - Where t=-2, *LCAM = LTA x 50%*; and
  - Where t=-3, *LCAM = LTA x 25%*.

$$\textit{Local Termination Amount} = \textit{Max}(0, (LocGenTNUoS_n \times X))$$

Where:

- $LocGenTNUoS_n$ is the relevant nodal Local Generation TNUoS tariff applicable to the generation project and published in the Statement of use of System Charges. If such a nodal tariff is not currently published, then the appropriate tariff will be calculated by National Grid as part of the application process, in accordance with the Charging Methodology.

- *X* is a multiplier, initially taking the value 8, although it may be appropriate that this be amended in subsequent price control periods.

3.6.7 Local Cancellation Amounts will be calculated using a fixed value of the Local Generation TNUoS tariff. This value will be fixed at the prevailing local generation TNUoS tariff at the last date at which a Construction Agreement could be signed. Local Cancellation Charges would not apply to projects where there are no transmission asset works.

**Local Capacity Reduction Charges**

3.6.8 In addition to the above charges applicable at termination of a User's Construction Agreement, Local Capacity Reduction Charges will also become liable if the User reduces its LCN prior to the Completion Date.

3.6.9 Should a User reduce its LCN on or after the Trigger Date but before the Completion Date it shall become liable to pay the following Local Capacity Reduction Charge:

$$\textit{Local Capacity Reduction Charge} = LCAM_t \times (LCN - LCN_r)$$

- Where $LCAM_t$ is calculated as in 3.6.6 above
- LCN is the LCN figure (expressed in kW) stated in Appendix C to the Users Bilateral Connection Agreement or effective immediately prior to the requested reduction in LCN
- $LCN_r$ is the revised LCN figure (expressed in kW) following the LCN reduction

**Pre-commissioning Security**

3.6.10 The introduction of generic Local Cancellation Charges, defined in the CUSC, to replace the existing final sums regime, defined in Construction Agreements, will also require the introduction of provisions to define the level of financial security that should be held in relation to these potential liabilities.

3.6.11 It is therefore proposed to add the applicable Local Cancellation Charge to each User's Security Requirement, as defined in paragraph 3.22 of the CUSC. To the extent that these amounts exceed the Allowed Credit extended to each User, Security Cover will need to be provided to National Grid, in any of the forms prescribed in the CUSC.

3.6.12 In the event a Capacity Reduction Charge becomes payable, the amounts secured in respect of the User Commitment Charge or Cancellation Charge will be re-calculated by reference to the new TEC level, post-reduction.

**Transition**

3.6.13 In the transition to LCN, generators would notify National Grid of their desired LCN in advance of a pre-defined date. The value notified would be limited to a generator's CEC. In the event that a generator did not notify National Grid of its desired LCN, the current value of TEC would be used as a default value. In the instance that multiple generators wish to share LCN, a process for notification will be required.

## 4.0 SUMMARY OF WORKING GROUP DISCUSSIONS

4.1 Recognising that the role of the Working Group was to assess the CAP165 amendment proposal against the Applicable Objectives, the Working Group considered various issues. The key issues considered were the nature and definition of finite long-term transmission entry access rights; the transition arrangements; the participation of non-physical parties in access arrangements; User commitment; security; Consequential Charging Modifications; Generation Zoning; Arrangements for Local Connections and the Consideration of Working Group Alternative Amendment requests. The group also considered the interaction of CAP165 with the other CUSC modifications in the Transmission Access suite of amendments.

4.2 The Working Group discussions are summarised in this section of the report. All presentations given at Working Group meetings are included in Annex 6 of this document. The notes from the Working Group meetings are available on the National Grid website at:
http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/workingstandinggroups/wg165-166/

4.3 A separate Working Group was set up to consider supporting changes which affect several CUSC amendments including CAP165. The relevant discussions from that Working Group (known as "Working Group 3") are also summarised in this section of the report.

### 4.4 The Nature and Definition of Finite Long-term Entry Rights

4.4.1 CAP165 proposes that the nature and definition of the finite long-term transmission entry rights will remain the same as current transmission access rights apart from the following key differences: (i)the rights will not (as they are currently under the CUSC) be automatically renewed each year and notification of relinquishing the rights will be provided by defining an end date of the long-term booking, (ii) the rights would be implemented zonally rather than nodally, (iii) the rights would be split into two components (local and wider) and (iv) final sums will be replaced by a generic commitment.

4.4.2 The Working Group considered the issue of the existing transmission access rights that CUSC Parties have. The group noted that currently Users have annual rights which are automatically renewed each year. This characteristic of Users' rights was considered further in the transition section of the report.

4.4.3 A number of objections were raised, by Working Group members, to being required to provide a date when a User would relinquish their transmission access rights. For example, some members of the group had concerns that projects would find it difficult to get finance if banks did not believe the power station could secure evergreen transmission access rights.

4.4.4 Some members of the group, noting that there were existing power stations connected to the GB transmission system were over 80 years old, considered that it may be hard for Users, at the outset of their projects, to know when their power station will close and therefore difficult for them to know how long to book long term transmission access rights. Other members of the group considered that Users would be in better position to predict when their power station might close compared to Transmission Owners. It was viewed that the knowledge that a plant will close in 30 years is not particularly useful for National Grid in their decision timescales. Information regarding what is happening in the next 2-15 years is of much more use in planning the system

than uncertain information many years hence. These concerns lead to the proposal of WGAA3.

4.4.5 The CAP165 amendment proposed blocks of (whole) financial years of transmission access bookings. The group discussed whether gaps should be allowed in the block booking of years of transmission access rights. It was considered by the group that no one would build a power station to use a one year gap. Being able to book gaps may unnecessarily complicate the arrangements and was felt by the Working Group to be of little, if any, practical use.

4.4.6 The group also felt upgrade and repair work could be unpredictable so a User would not know when booking a gap in their transmission access, when would be most appropriate. The User would have more flexibility if they bought one continuous block and tried to trade out any 'gaps' as an when they occurred this at a later date.

4.4.7 On the other hand if a number of power stations had booked gaps in their access arrangements during their original booking these gaps may be able to be aligned to allow access to the transmission system. It was decided that gaps would not be explicitly disallowed although the Working Group did not expect that they would be regularly used.

4.4.8 The group considered when the transmission access right would be available to be reallocated and when Users could extend the length of these rights. The proposal would allow the booking and extension of future transmission access rights at any time. For example, if a User booked access until 31st March 2015 they could at any time extend their access for April 2015 onwards. Similarly a new User would be able to book the access from April 2015 onwards at any time.

4.4.9 The group had some concern that this may lead to Users hoarding access for the longest time they could possibly need it or booking access for the amount of time they think it would take to get a new connection, so as to ensure the equivalent rights that exist now.

4.4.10 If a User extended their transmission access right and the access was still available minimal analysis would be required by the network planners. The group considered that the charge for extension should be reflective of the reduced costs.

4.4.11 The group discussed whether it was appropriate for the long term transmission access rights to be zonal by definition. National Grid proposed two options: (i) rights could be explicitly defined on a zonal basis or (ii) rights could continue to be defined nodally but cash out and overrun would be calculated zonally.

4.4.12 The group considered that zonal transmission access rights would be complex to manage if the zones changed. Some of the Working Group were concerned that small portfolio or single station users would be disadvantaged by zonal access rights if they were implemented without other sharing arrangements. A preference towards keeping the access right defined nodally was shared by the group. Zones were considered in greater detail by Working Group 3, whose deliberations are summarised later in this report.

4.4.13 The CAP165 Working Group discussions considered arrangements for wider access to the transmission network. Working Group 3 considered the appropriate arrangements for the local connection.

4.4.14 The group considered the appropriate arrangements, as part of CAP165, for Users who had requested wider transmission access and their local access was available at an earlier date. The group believe that it would be appropriate for these Users to be able to use short term transmission access products during the period before their wider works were completed. Short Term Transmission Entry Capacity (STTEC) and Limited Duration Transmission Entry Capacity (LDTEC) could potentially be used in this scenario as could (if implemented) the CAP161-CAP163 short term products.

4.4.15 If the wider works were completed before the local works the User would be unable to use the transmission system. It is considered that in the majority of connections the reinforcing of the wider infrastructure would be a longer project than building the local connection. Whilst unlikely this situation could potentially occur under the current arrangements.

4.4.16 Separating the local works from the wider works gives a new User more flexibility if their local connection is finished before their wider connection. Separating the works neither facilitates or frustrates Users whose wider works are finished before the local connection against the current baseline.

## 4.5 Transition

4.5.1 Under CAP165 it is proposed that no transmission access rights would be withdrawn from existing Users. Existing generators with TEC including pre-commissioning users with connection agreements will be offered an equivalent long-term finite right under CAP165. During the transition period generators with existing TEC will be invited to nominate the number of whole financial years for which they require long term transmission access rights.

4.5.2 The majority of Working Group members believed that they currently had 'evergreen' transmission access rights, which they defined as rights that are automatically renewed each year given payment of TNUoS. The Authority representative stated their belief that rights under the CUSC were unclear, and that there are features of the existing rights which suggest they are not evergreen. Some Working Group members noted that whilst the rights currently have evergreen characteristics, such features could be changed by making an amendment to the CUSC (although not all such members believed that this would be appropriate).

4.5.3 Some members of the Working Group suggested that if this were the case, then rights to be allocated, via CAP165, could also, in the future, be removed (or fundamentally altered) via an amendment to the CUSC. The Authority representative stated that, in the case of future rights where parties have made a non-reversible financial commitment, this was unlikely to be appropriate. However, they did not believe that this was the case for existing rights.

4.5.4 Some members believed that if existing rights were evergreen, this would constitute a property right, and that it would not be appropriate, or even legal, for such rights to be changed solely by a CUSC amendment. However, the Working Group accepted the suggestion of the Chair that, without prejudice to those rights, in order to proceed with the work of developing and assessing

CAP165 they had to set aside their views of existing transmission access rights.

## 4.6 Non-physical Players

4.6.1 Under the current (CUSC) arrangements, only physical parties; ie generators; can apply for Transmission Entry Capacity (TEC). Transmission access arrangements are codified in the Connection and Use of System Code (CUSC). Currently Interconnector Users and Suppliers are non-physical signatories of the CUSC, but these Users do not hold TEC. For holders of TEC, the CUSC is ingrained with technical obligations which Users with transmission entry access rights must fulfil (because such rights are implicitly linked to physical generation equipment). To allow non-physical parties to obtain (and then trade) transmission access a new category of non-physical User would need to be included, and the CUSC would need to be rewritten to separate access rights from Users' obligations.

4.6.2 One member of the Working Group questioned whether it would be permissible under the Acts of Parliament associated with the CUSC to change it to include non-physical players. They noted that if during the progression of the NETA and BETTA related legislation (which (i) introduced the CUSC and (ii) amended it) DTI/BERR, Ministers, the Government, or Parliament had opined on non-physical players then this might preclude what was being proposed. It was decided to seek a legal view on this from BERR. The group voiced concern that waiting for the answer could hold up the work of the group. However, it was noted that the work of the group could proceed and a response on this matter be provided (i) to the group or (ii) the CUSC Panel in due course.

4.6.3 For the avoidance of doubt, the Working Group agreed that if CAP165 were to include the ability for non-physical parties to obtain (and then trade) transmission access that this would be an Alternative (as this was not part of the (original) CAP165, as proposed by National Grid. The Working Group is not proposing, at this stage, that such an Alternative be developed. However, it would welcome views on this as part of this consultation.

4.6.4 Under a recent CUSC amendment, CAP150, a power station should be able to demonstrate the capability of delivering MW output equivalent to their requested (MW) TEC transmission access figure. CAP150 was brought in to avoid network investment in excess of the capability of generation assets. Non-physical players by definition would not be able to demonstrate this capability without an agreement with a physical party.

4.6.5 There is concern in the group that allowing non-physical parties to buy transmission access rights could lead to poor transmission investment signals. Under the current arrangements as a power company builds their power station the risk of them not connecting reduces as the assets are put in place. Often the investment in transmission assets for a new power station goes hand in hand with the power station assets being built. If transmission infrastructure is built to accommodate a purely financial commitment the revenue for the assets would be recovered (from the non-physical party who made the booking that caused the transmission investment) but the infrastructure may remain unused.

4.6.6 The group believed it would be difficult for the TO's to build assets to reinforce a zone without knowing specifically where a generator would be based as well as the associated technical aspects of that generator. Some

Working Group members suggested that the transmission system boundaries could be reinforced in this case, although this may not be the most appropriate investment, depending on who the eventual (physical) party was that used the rights.

4.6.7 Some members of the Working Group voiced concern that adding a third party into the trading of transmission access rights may increase the transactional costs. Such non-physical parties would also be aiming to make money through the trading of transmission access capacity, which would be likely to increase the overall cost to the electricity consumer.

4.6.8 The main aim of including non-physical players in the market would be to improve liquidity, and to address the concern that to exclude them would be to limit market activity. Non-physical participation is permitted in other markets, such as gas, though new capacity has to be booked at a certain point not in the form of deep reinforcement. However, the focus for the development of transmission access arrangements is to facilitate the more efficient use of the electricity transmission system. The group considered that it should aim to do this in the least complex manner and that creating a new commodity market should not be an aim in itself.

4.6.9 Therefore, given the additional complexity that would result from the inclusion of non-physical participants, the group believed that significant benefits would need to be demonstrated in order to justify such a move. Further, some members of the group considered that introducing non-physical players would not actually improve the liquidity of the market. There is also some concern in the group that allowing non-physical players to participate would increase the potential for gaming.

4.6.10 One member of the group argued that the exclusion of non-physical parties in the proposed long-term electricity access arrangements is discriminatory and against the spirit of a liberalised competitive market. However, it was pointed out by other members of the Working Group that the exclusion of non-physical parties has been a feature of the CUSC since it was designated by the Secretary of State in 2001 (and again in 2005) following consultations by Ofgem and (DTI)BERR.

4.6.11 Some members of the group considered that allowing all (physical and non physical) parties to participate in transmission access arrangements, improves competition and liquidity for capacity so that where there is a scarce resource, a useful investment signal is developed. Different capabilities may facilitate the entry to the market of new players particularly if they are small in size and cannot handle the risk associated with transmission access. Also, the generation market becomes more competitive as a variety of contractual forms are allowed to exist. For example, tolling arrangements and optimisation for merchant plants where capacity is managed by the “off-taker” who may very well be a “non-physical” player.

4.6.12 One member argued that some of the financial transmission rights markets in the US also permit non-physical players to participate. The reason for that is exactly that financial players, if subject to the same collateral and anti-hording requirements as the rest of the market participants, can bring additional liquidity to the market and offer risk management services to smaller participants that may not have the same capability.

4.6.13 A Working Group member considered the discussion on gaming is also overplayed. Capacity speculation within transmission networks is not viable

when there are appropriate anti-hoarding measures in place, and in any case there can be no provision on which class of market player may trade purely on a speculative basis. The Working Group member added, on the other hand no legislation can prevent non-physical players acting on the capacity market through a physical player and a "sleeve" arrangement. Taking as an example the UK Gas Market, abusive squeezes in the gas capacity market have not worked as capacity simply becomes free for those that can physically utilise it.

4.6.14 The majority of the group concluded that including non-physical players in the transmission access arrangements would provide liquidity advantages. However, in order to do so it would be essential that appropriate anti hoarding measures were put in place to avoid market abuse. Short term access arrangements could provide anti hording measures by ensuring that unused capacity was made available for free in the short term markets. Some Users would want to buy long-term transmission access rights as a hedge against the short term price of access.

4.6.15 The group believe that it may be necessary to have a Licence for non-physical Users. To include non-physical players would also involve changes to the CUSC. The group, mindful of the need for (i) anti hoarding measures and (ii) the fair trading of capacity, considered that arrangements similar to those applied to interconnector Users would need to be put in place if non-physical players were to be granted long term transmission access rights.

4.6.16 The majority of the Working Group believes that whilst non-physical players could provide some benefits it was not practical at this stage to include them in the proposed CAP165 amendment. It is considered that whilst the inclusion of non-physical players should not be taken forward as part of this amendment it would be a positive extension to the access arrangements at a future date.

## 4.7 User Commitment

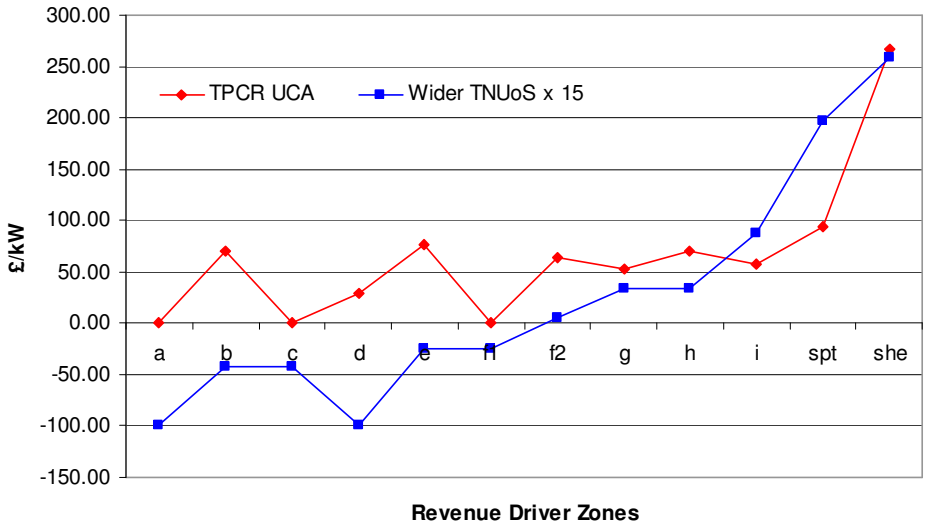
4.7.1 The CAP165 proposal suggests that Users book a finite period of whole financial years of access to the wider transmission network. The original proposal suggests that Users would provide commitment for this access through a liability to pay the relevant TNUoS charges. Where reinforcement is required to provide transmission access, the User would need to book a minimum number of years so that the TNUoS liability is approximately equal to half of the investment costs.

4.7.2 The liability would provide User commitment and would be backed up by some level of pre-commissioning security as considered in the Security section of this report. Being liable for half of the investment costs would mean that the risk of reinforcement assets becoming stranded would be shared equally between the User causing the investment and National Grid (if the revenue for the assets was disallowed) or all Users (if the revenue for the assets was allowed).

4.7.3 National Grid performed analysis to calculate the number of years of TNUoS which would be equivalent to half the reinforcement investment costs. The Unit Cost Allowance (UCA) revenue drivers were used as generic investment costs. These revenue drivers are a mechanism to reimburse TO's for access provided above the baseline.

4.7.4 On average, the UCA in a zone is fifteen times greater than the wider TNUoS charge (as calculated under Option A of GBECM -11[1]). The group considered that using whole financial years made the model most simple. This suggests that a User should have a liability to pay eight years of wider TNUoS charges to cover half of the costs of the investment made in wider works to accommodate them.

4.7.5 The following chart shows a plot of wider TNUoS charges multiplied by fifteen and the surplus revenue drivers from the licence. These values are shown in £/kW for each revenue driver zone. A map showing the revenue driver zones is included in Annex 5.




4.7.6 The correlation between Wider TNUoS and the surplus UCA is not very strong. This suggests that TNUoS charges may not give a very good proxy for investment.

4.7.7 There are several reasons why wider TNUoS is not an ideal proxy for investment. One factor is that TNUoS considers the annuitised cost of an asset over its life and takes into account the whole network. The revenue drivers are calculated using the average cost of specific projects expected to take place during a single price control.

4.7.8 Another key difference between TNUoS charges and revenue drivers is that revenue drivers are based on the gross cost of investing in the network. However, TNUoS charges are based on the net financial impact of adding one MW of capacity at a node. The gross project costs will always be zero if no reinforcement is required or positive if some reinforcement is required. The TNUoS charge is negative in areas where the number of MWkm as calculated by the transport model is decreased. This means that a generator connecting in the south of Britain would create a net reduction in flows on the transmission network.

4.7.9 Using TNUoS as the basis for User commitment would mean that no User commitment was provided in negative zones. Some members of the group suggested that if a zone has a negative TNUoS charge this indicates that there is spare capacity available in the zone. Clarification from National Grid

[1] GBECM – 11 - http://www.nationalgrid.com/NR/rdonlyres/27F920CA-C678-4D91-A3D1-701E909BDAFB/28281/GBECM11ConcReport_final_HR.pdf

explained that a negative TNUoS charge was not indicative of spare capacity. Indeed, in some negative charging zones (for instance, the Thames Estuary) the provision of additional capacity may be relatively expensive.

4.7.10 The group therefore considered whether being liable for 50% of the UCA revenue driver would be a more appropriate method of providing User commitment for investment costs. The majority of the group considered that the UCA provided a better proxy for investment costs than TNUoS in England and Wales. However, in Scotland the revenue drivers are calculated using a different methodology, and there were concerns within the Working Group over the inconsistency of how the revenue drivers are calculated in England and Wales as compared to how they are calculated in Scotland. The main concern of the group was that any inconsistency could lead to an inequitable treatment of users in different regions of Great Britain.

4.7.11 Some Working Group members also noted that, under CAP165, the use of UCAs as a termination charge could result in a terminating generator paying more than the total TNUoS charges that they would be liable for over the remainder of their booking, and expressed concern that this could reduce the efficiency of plant exit from the system. As generating plant could avoid some of the termination charge by shutting but not terminating the access booking, a test was discussed in order to identify deemed terminations. However, it was suggested that this would fundamentally change the nature of the access product from one which entitles the holder to generate to one which obliges the holder to generate.

4.7.12 The Working Group therefore concluded that revenue drivers were not suitable to be used as the basis of User commitment.

4.7.13 Many Working Group members believed that the lack of historical evidence of asset stranding meant that pre-commissioning User commitment did not need to accurately reflect investment costs. Other Working Group members did not accept that past evidence meant that stranding would not be an issue in the future, but some of these members also accepted that the best overall model for CAP165 might be one that included arrangements for pre-commissioning User commitment that were not necessarily completely reflective of investment costs. In respect of the particular issue of negative charging zones, National Grid highlighted that, in any event, some commitment would be given in relation to the local connection.

4.7.14 Some Working Group members therefore concluded that, as CAP165 is focussed on providing certainty to National Grid by Users booking transmission access for a number of years and paying the appropriate charge, any termination charge should be based on TNUoS, and they therefore believed that the original CAP165 amendment (and WGAA1) was the appropriate response to the defect identified. However, other Working Group members believed that pre-commissioning User commitment should be reflective of investment costs, and, as wider TNUoS has been shown to be a poor proxy for wider investment costs and the revenue drivers have been shown to be unsuitable as a basis for User commitment, this concern led to the submission of WGAA2.

## 4.8 Security

4.8.1 The Working Group considered a number of options for security, one of which was requiring security for the entire booked period of entry capacity. However, the group believed that this would be a significant barrier to entry

and that the value at risk would be significantly lower than the whole booking. The group discussed what value was really at risk.

4.8.2 It was considered that the actual value at risk was minimal in the case of a power station which had already been commissioned. If the power station owner entered insolvency the power station was likely to be taken over by another company which would take on the liability to pay the TNUoS charges going forward from the date of acquisition.

4.8.3 The TNUoS charges which cannot be recovered from a bankrupt User (e.g. from the date of the last unpaid TNUoS bill to the date when the new purchaser takes over and starts paying TNUoS going forward) will be socialised across all generators. It was noted that the cost, for these Users, of providing security to National Grid (for their TNUoS charges) was expected to outweigh the cost of socialising the non payment of TNUoS charges by bankrupt Users. The Working Group considered that the Users who will face these costs are best placed to decide to what extent they are happy to 'self-insure' each other.

4.8.4 The group considered that being aware of the cost to the industry of securing transmission access versus the cost to the industry of socialising stranded transmission assets costs would help the group make an educated decision on the appropriate amount of security that might need to be held.

4.8.5 Despite a number of examples over the years of CUSC Parties going into (i) administration (ii) bankruptcy or (iii) receivership, there has only historically been one instance where a power station entering administration has not been sold to a new owner within the same charging year, and this particular power station was in a negative charging zone. Therefore, there has been no historic socialised cost to Users. The group believed it would be difficult to quantify the exact costs of security for the whole booking period but considered that this could be in the region of tens of millions of pounds per annum.

4.8.6 Some members of the group were concerned that although there had been no historic instances of Users failing to pay their TNUoS charges the number of generators wishing to connect in the next decades is likely to be a period of unprecedented change. This suggests that extrapolating historic data into the future may not give us a true view of the potential risks.

4.8.7 The group considered whether it was appropriate to have different security arrangements for Users pre and post comissioning. The group considered that the risk profile of pre comissioning Users was different to that of a User post comissioning. The group considered that a post comissioning User would have a power station asset which in many cases could be resold so their risk was low until the power station came towards the end of its life. A pre commissioning User's risk profile changes throughout the life of a project. Although the risk will generally decrease as the User approaches commissioning, the risk is higher than a post commissioning User.

4.8.8 Some members of the Working Group believe that post commissioning Users should not have to provide any security, as is the case at present. It was considered that if a User with an existing power station were to enter administration in most cases another party would buy the assets and take on the liability to pay the outstanding TNUoS charges. This would mean that the value at risk was effectively zero.

4.8.9 Other members of the group considered that providing security for the balance of the current year's TNUoS charges was a reasonable compromise for most post comissioning Users between the cost of security and the potential risks. This solution would allow National Grid to recover all revenue in the period in which it was unable to change charges.

4.8.10 Some members of the group considered that providing security for the balance of the current year's TNUoS charges would be administratively onerous. This is because the level of security required would change each month. Some members argued that having a constant six months of security (representing the average over the year) would be more appropriate.

4.8.11 Some Working Group members considered that certain Users would represent a higher level of risk, consequently, it would be appropriate for these Users to provide a higher level of security. Such Users might include older power stations making long bookings (and therefore incurring a high liability). However, the group also noted the potential practical difficulties in formulating rules in this area, for instance in determining the age of a power station (which many have had certain equipment replaced, or may have even been replanted). The group therefore concluded that it would be infeasible to develop any arrangements in this area under CAP165, but highlighted this issue as an area for potential future development.

4.8.12 The Working Group concluded by majority that post-commissioning Users should not have to provide any security for TNUoS charges.

4.8.13 With regards to pre-commissioning Users, the majority of the Working Group considered that it would not be undue discrimination to ask pre-commissioning Users to provide a different level of security to post-commissioning Users given the differing risk profiles. Under some the CAP165 proposals and alternatives, pre-commissioning Users would therefore be expected to secure their full liability, in others a proportion of their liability based upon the perceived risk of default.

## 4.9 Consequential Charging Modifications

4.9.1 CAP165 could impact on the Use of System Charging Methodology. The Working Group considered the consequential changes which may be required to implement CAP165.

4.9.2 The group discussed whether it would be appropriate for Users making a long term booking to have fixed charges. Fixing the locational charge will make the charge less accurate over time. This inaccuracy will be recovered through the residual. If both the locational and the residual are fixed the inaccuracy would need to be recovered through short term access and subsequent long-term bookings.

4.9.3 National Grid presented analysis to describe the quantitative effect of fixing the TNUoS charges. The results of this analysis can be found Annex 3 of the report. The group considered that fixing the whole TNUoS charge for the duration of the booking would leave National Grid with under or over recovery of the allowed revenue. This would still need to be recovered, and so could lead to additional charges that would be levied on all Users. Some Working Group members did not see why they should face the undue burden of the potentially unpredictable costs/risks associated with other Users fixing their charge with National Grid. The group considered that fixed charges would be

desirable only if they were fully fixed, and that would be impossible without changing the TO funding arrangements

4.9.4 CAP165 is not dependent on Users having the option to fix their charges. However, some User may believe that having the option to fix their charge would be favourable where they have made a long term commitment. It was noted by a member of the Working Group that Users could already, if they wished, seek to fix their charges by using a contracts for differences type agreement with either (i) another User or (ii) a financial institution etc. The arrangements for fixing TNUoS charges will be consulted upon separately through the charging governance.

## 4.10 Generation Zoning

4.10.1 National Grid recommended that in light of the proposed suite of CUSC Transmission Access Review Amendments (namely CAPs 161, 162, 163, 164, 165 and 166), it might be appropriate to move away from the existing TNUoS generation zones and develop a set of zones which better facilitate the release of transmission access via SO Short-term Entry Rights (CAP161), Entry Overrun (CAP162), Entry Capacity Sharing (CAP163), Long-term Finite Rights (CAP165) and Long-term Entry Capacity Auctions (CAP166). To help facilitate this work on zones the CUSC Amendment Panel established a separate group, known as Working Group 3, to assist Working Groups 1 and 2. Transmission Access Working Group 3 considered generation zoning in detail, a summary of their discussions is included in this section.

4.10.2 At the second meeting at Working Group 3 on 27th May 2008, National Grid introduced two separate generation zoning options in the form of: (i) a Scenario-based Zoning Methodology ("SZM"); and (ii) a Network-based Zoning Methodology ("NZM"). Both methodologies were proposed on the assumption that:

- local reinforcement works required to connect a generator to the MITS (and therefore make use of transmission capacity) are achievable;
- the resulting zones facilitated TEC exchanges within zones on a 1:1 basis; and
- limits (MW) at points of connection can be 'aggregated' in terms of their effects on wider transmission system constraints.

**Scenario-based Zoning Methodology ("SZM")**

4.10.3 The SZM considered the actual boundary constraints of the transmission system and followed the process of: (i) identifying candidate boundaries; (ii) identifying critical circuits for these boundaries based on the required transfer level specified within the GB SQSS; (iii) the calculation of sensitivity factors at all nodes with regard to critical circuits; and (iv) the grouping together of those nodes which have similar sensitivities.

4.10.4 In practice, candidate boundaries were identified manually based on the operational boundaries of the transmission network. The worst critical contingency and circuits were then identified against the indicative boundary. Sensitivity Factors were then calculated for each node by 'injecting' an additional 100MW of generation at each node within a zone and calculating the resultant flows on each of the relevant critical circuits under a contingency. Those nodes of Sensitivity Factors within a range of 20 percent were then grouped together.

4.10.5 The advantages of the SZM were observed as being that:

- maximum tradable transmission capacity within a zone could be derived from Sensitivity Factors for the winter peak scenario;
- the grouping of nodes of similar Sensitivity Factors into zones gives greater clarity and certainty to zonal transmission access; and
- additional constraint costs are minimised because actual transmission network constraints are honoured.

It was also noted that the publishing of nodal Sensitivity Factors leads to an indicative economic optimisation for TEC exchange.

4.10.6 The disadvantages of the SZM were noted to be that critical circuits tend to 'move' in meshed networks and that they are scenario and contingency dependent. Additionally, it was noted that zones developed under the SZM are unlikely to remain stable over a number of years due to changes to the transmission network and the demand and generation background.

**Network-based Zoning Methodology ("NZM")**

4.10.7 The NZM did not consider actual transmission boundary limitations, but worked on a 'hub and spoke' principle, considering the change in voltage angles resulting from the exchange of TEC at individual nodes as the parameter for determining relevant zones. It was identified that under the NZM, zones might be considered to be less likely to change so long as the network topology and impedance of the transmission network did not change significantly. And, where the SZM studied a few 'snapshots' of the transmission system, the NZM did not rely on a specific scenario being studied, hence providing more stability to the zones in the long-term.

4.10.8 Limitations of the NZM were identified to be that the choice of hub-node used to determine the zones was critical to the zonal definition and likely to have a significant impact on a generators ability to exchange transmission access rights. Additionally, it was noted that actual transmission system constraints might not be fully reflected.

*Working Group 3 discussion*

4.10.9 Working Group 3 noted that a significant amount of further information and analysis of both options was required, including the estimated total effect on transmission constraints, the stability of zones and the 'liquidity' of capacity exchange.

4.10.10 Working Group 3 questioned as to whether it would be possible to overlap zones in the NZM, or even have a unique zone for each node to maximise tradability. Concern was expressed however, regarding the impact of sequential trades from zone to zone and the potential impact of this on constraint costs.

4.10.11 In addition to the SZM and NZM, Working Group 3 questioned the possibility of the publication of node to node exchange rates in preference to zoning. The presentation slides regarding the SZM and NZM can be found on the National Grid Codes website.2

**Indicative generation zones**

4.10.12 At the fourth meeting of Working Group 3 on 16th June 2008, National Grid presented some indicative generation zones based on both the SZM

[2] http://www.nationalgrid.com/NR/rdonlyres/9A797D89-2BC2-459C-A3C7-744F3212109F/25954/Meeting2Zoning.pdf

and NZM. Zoning for regions that are radial in nature was relatively simple, the zoning process however, was much more difficult due to the presence of loop-flows.

4.10.13 It was noted that in the short to medium term (circa 2-3 years), National Grid (as the GBSO) can arrive at larger generation zones which may better facilitate the exchange of transmission access rights due to the greater certainties associated with background conditions and operational measures. In the longer-term however, it was considered that smaller generation zones would be required to cater for increased uncertainty.

4.10.14 In general, a number of key issues and findings were noted:

- Generation zones were generally different from the existing TNUoS generation charging zones.
- Short-term zones can be much bigger than the long-term zones, and they can change from time to time.
- In a meshed network, the effect of loop-flows may increase the percentage loadings on critical circuits and make it difficult to define zones.
- The definition of local works will affect zoning criteria.
- Being geographically proximate does not necessarily mean being electrically proximate, especially when substations are operated in a "split" configuration. In this instance, re-arranging of busbar sections or substation uprating may be required to facilitate TEC sharing.

*Working Group 3 discussion*

4.10.15 Working Group 3 noted the importance that any new zoning methodology should be suitable for all long and short-term transmission access products proposed under the suite of CAP161-166 amendments and gave consideration to the trade-off between the potential increased costs of operational constraints, the liquidity of absolute trades, and the number of nodes in each zone. It was considered that zones should be based on capability (e.g. local connection capacity) rather than obtained long-term transmission access rights (TEC or its equivalent).

**Hybrid zoning methodology**

4.10.16 At the fifth meeting of Working Group 3 on 1st July 2008, National Grid presented some indicative generation zones based on a hybrid (of SZM and NZM) zoning methodology, in that a critical trip was applied (under n-d) with 100MW injected at each of the rim nodes and then extracted at the hub node. Following this, the loading of all lines under a combination of every rim-rim, rim-hub pair was analysed. If a loading increased by more than 20MW, this was then considered to be a 'sensitive' case. The exercise was repeated for a number of other critical trips with a sense check undertaken prior to determining the zones.

4.10.17 The methodology applied to determine a set of zones was as follows:

1. Set local works and size of zones (2 of the 3 variables – excluding constraints).
2. Identify active constraints based on existing knowledge of that selected zone.
3. Calculate the volume of additional constraints based on:
   - NZM sensitivities;
   - Load factors of buying and selling generators to calculate the volume of potential tradability.

- Use realistic outage windows to estimate the number of hours of potential exposure to constraints.

4. Estimate the costs of constraining off and replacement energy.

*Operational constraint costs*

4.10.18 In addition to presenting some indicative generation zones and some of the issues surrounding the zoning process, consideration was given to the balance between facilitating transmission access tradability within zones and the consequences of constraint costs and stability.

4.10.19 Operational constraint cost is calculated based on the volume of active constraints (MWh), multiplied by the cost (£/MWh) of these constraints. It was noted that a small generation zone will lead to less trading options, though this might not necessarily be considered as a 'low' level trading. Working Group 3 members considered that a potential % cap of total zonal trades should ideally, be the same for all generation zones, although different zones may permit a far larger volume of transmission access trade for the same operational cost risk. It was considered that limits on trades would allow larger zones with more nodes, and that a limit could be set as a function of the load factor of generators, or proportions of the total transmission access capacity (MW) within a zone.

4.10.20 National Grid presented some high level analysis on the volume of additional constraints and the associated cost of this, based on a mid depth local works definition and the exchange of between 25-100% of TEC within a zone when compared to existing constraint costs of approximately £80m per annum.

*Working Group 3 discussion*

4.10.21 Working Group 3 noted that there is a trade-off between (i) nodal tradability, (ii) maximum zone size and (iii) how much local works must be completed prior to transmission access being allocated. For example, if a deep definition of 'local works' is applied then, as a consequence, zones are likely to be larger. It was reiterated that the existing assumption is that when transmission access is exchanged or shared, resulting in additional constraints, this additional cost will be socialised amongst all transmission system Users.

4.10.22 Working Group 3 noted that there are three different areas in the TAR proposals where local assets and works are defined: (i) within the CUSC; (ii) for local charging purposes; and (iii) within the zoning methodology. Working Group 3 considered that the disconnect between the actual local works that are required for a connection and the local charge which the User will pay may be necessary to:

- Avoid circumstances in which there would be a permanent output restriction on a generator being connected; and
- Protect the individual generator from the actions of others or the decisions of the Transmission Owner.

4.10.23 The Working Group noted that having separate definitions may be consistent with the way in which current Construction Agreements list the incremental works required to accommodate generators, with the generator paying the Long-Run Marginal Cost (LRMC) derived from the Investment Cost Related Pricing (ICRP) transport and tariff model. However, the Working Group subsequently agreed that different CUSC and charging definitions may lead to users getting access rights without

facing the associated cost reflective charge, as described in 4.11.11 below.

4.10.24 Working Group 3 considered that the stability of zones was very important and therefore new generation zones should not be developed in this process on the premise that zones are acceptable at present, but there may be issues to address in the future. The presentation slides relating to the hybrid zoning methodology can be found on the National Grid Codes website.3

4.10.25 At the sixth meeting of Working Group 3 on 16th July 2008, National Grid presented some indicative generation zones, using a 'mid depth' definition of local works and a lower Sensitivity Factor limit (20%). In order to avoid significant local works reinforcement conditions, very small zones were created which based on previous Working Group 3 discussions, were considered too small. However, it was noted that to fully appreciate the 'size' of zones, it is the number of trading parties and the amount of tradable transmission access capacity within a zone that should be considered more relevant than the geographic area.

4.10.26 In parallel, National Grid presented some further analysis on indicative generation zones based on a 'deeper' definition of local works, to assess how this may increase the tradability of transmission access. Several Indicative zones were created although it was noted that it was not possible to zone certain regions such as East Anglia on the basis of the deep definition, without invoking local works designs that were economically inefficient. In general, it was considered by the Working Group that moving to a deeper definition of local works did little to increase the size of zones and the potential liquidity of access sharing.

4.10.27 Working Group 3 noted that stability at nodes is important, but the possibility of considering (i) nodes with existing generation and (ii) nodes with signed applications (to connect to the transmission system at some date in the future) should be explored. This was not necessarily perceived to provide stability to zones beyond a 3 to 5 year period, but it was deemed workable if a fully automated and transparent model can be made publicly available to the industry.

**Generation zoning and nodal exchange rates**

4.10.28 At the seventh meeting of Working Group 3 on 29th July 2008, National Grid recapped on the generation zones which had been presented to date, noting that these were based very much on existing generation centres, existing demand centres and radial spurs.

4.10.29 When identifying the generation zones, a number of factors had been raised as requiring consideration, particularly as to whether generation zones should be developed with a view to them being short-term or long-term, and whether they should be based on physical transmission system boundary limits or the additional constraint costs that these would be likely to produce. Given the complexity of zoning, attention of Working Group 3 turned to giving consideration of inter-zonal TEC exchange of transmission access and even the possibility of nodal TEC exchange of transmission access.

[3] http://www.nationalgrid.com/NR/rdonlyres/1E709B88-B313-47B7-9835-2424C283798C/26845/GenerationZoning_final_meeting5.pdf

4.10.30 The options considered included the determination of a nodal 1:1 exchange rate based on the physical transmission network rather than generation background, which should therefore be temporally stable. This option would need to consider both long-term and short-term timescales, local charging definition and reflect network contingency analysis.

4.10.31 The second option was for a Locational Marginal Pricing ("LMP") based approach for setting point-to-point rights. This bid-based approach can accommodate multiple constraints and payments would be made into a 'pool' based on the cost as compared to a hub point. Working Group 3 had concerns that the results would be volatile and that there would be less transparency behind the prices. In addition, the approach was felt to be complex.

4.10.32 Alternatively, a 'flowgate' approach was considered which would look at the physical capacity of constraining transmission circuits. This was felt to be a substantial change to existing transmission access rights, and with the example of around 1.5 billion nodal calculations per year required to update the Flowgate rights, Working Group 3 felt that this option was the most complex to implementation and was prone to volatility.

4.10.33 The last option considered was the use of a nodal exchange rate using a MWkm methodology. Consideration was given to using the Direct Current Load Flow ("DCLF") transport model currently used to calculate TNUoS tariffs, to calculate nodal exchange rates for transmission access. This option involved taking into account various sets of contingencies, with the added advantage that some automation to identify all circuits was already available in the form of the Secured Load Flow model used to calculate to Global Locational Security Factor in TNUoS tariffs.

4.10.34 The weaknesses of this option were noted as being that the use of MWkm as a measure, does not equate to a critical circuit flow and as a result, overestimated transmission access exchange rates had already been identified at this early stage and would continue to be a significant risk. In addition, it was noted that there was no correlation to overloaded flow and the increase in GBSO costs that would be associated with this.

4.10.35 At the eighth meeting of Working Group 3 on 13th August 2008, as well as further developing the principle of a zonal methodology based on nodal exchange rates, National Grid introduced a zonal alternative and a nodal alternative.

4.10.36 **Nodal exchange rates:** A step by step methodology was discussed for establishing zones through grouping nodes between which the exchange rate fell within a certain range. Example exchange rates were shown for a particular approach based on specific assumptions. The approach was based upon worst-case contingencies in order to establish exchange rates, where the resultant zones would have minimal constraint costs arising from the exchanges. Transmission access exchange rates were shown for one set of possible assumptions. Working Group 3 was comfortable with the exchange rate discussed, which reflected the different impacts on a specific circuit from different nodes, but expressed concerns that under various critical trips the exchange rate may change significantly.

4.10.37 **Zonal alternative:** An alternative is to use zones that have already been defined (e.g. SYS, charging or candidate short/medium term generation

zones), then the impact of such (i.e. increase in constraint costs) could be examined for an agreed suite of assumptions and scenarios. The working group agreed that careful assumption must be made around likely projects connecting and TEC sharing behaviour.

4.10.38 **Nodal alternative:** Working Group 3 considered an ex ante nodal exchange rate approach. The total impact on constraint costs is mitigated when Users who wish to share, notify the SO of the specific nodes between which the transmission access will be shared in addition to the maximum size of trade. This allows a more robust exchange rate to be established. Once granted sharing could occur over any timescale; without exposure to nodal overrun charges.

**Sharing access rights between nodes**

4.10.39 Given the issues identified with establishing zones in which sharing with a 1:1 exchange rate is allowed, at the ninth meeting of Working Group 3 on 22nd August 2008, the Working Group gave some further consideration to some potential options for sharing transmission access between nodes, without the requirement for generation zones. Three models were considered (the presentation is available on the National Grid Codes website):

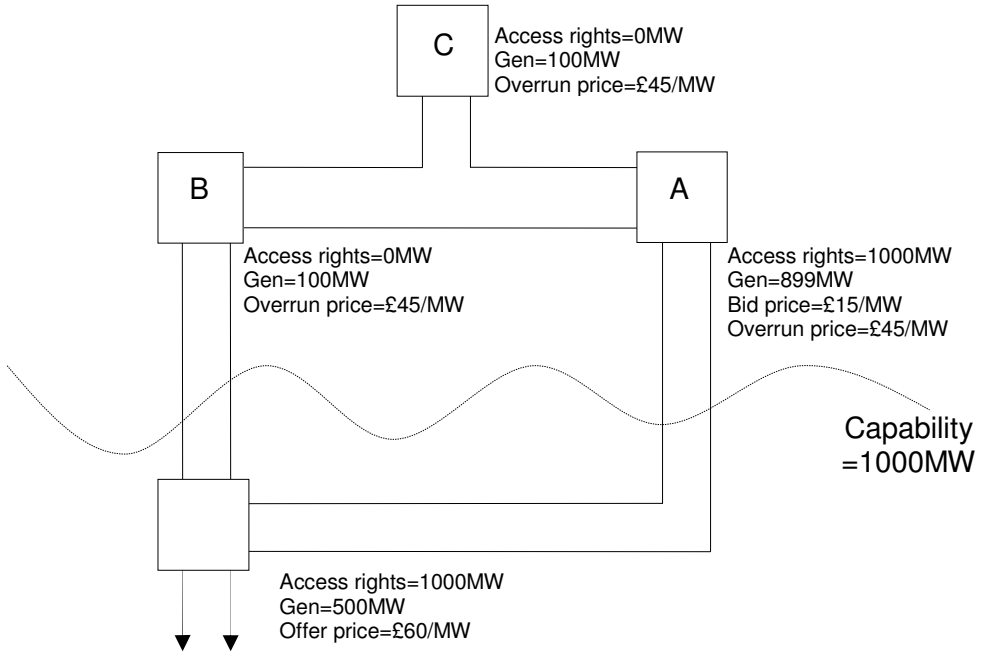
(a) Sharing with exchange rate determined by ratio of nodal (ex post) Overrun prices;
(b) Sharing with fixed point to point exchange rate calculated by National Grid based on known volume and duration; and
(c) Sharing facilitated by the release of point to point transmission access rights by National Grid in investment timescales.

**Exchange rate determined by ratio of nodal Overrun prices**

4.10.40 Under this option, the User would notify National Grid of a sharing arrangement agreed bilaterally between two parties. National Grid would then calculate exchange rates based on (ex post) overrun prices. The results from these calculations would then form the inputs into the calculation of overrun volume.

4.10.41 Whilst overrun prices allow Users to share transmission access rights to an extent, Working Group 3 considered that there was an issue with a bilateral exchange being affected by a third party generating, which would consequently affect the overrun prices and exchange rates

4.10.42 If we consider the simplified example (shown in the diagram below) of two generators behind a constraint, generator A has long-term transmission access rights and generator B does not. The overrun price increases above zero only if the aggregate output from both generators exceeds the long-term rights held by generator A. This means that provided generator A reduces output whenever generator B wants to generate, the overrun price faced by generator B will be zero.




4.10.43 This arrangement would break-down if there was a third generator, generator C, generating without transmission access rights behind the same constraint. The output from generator C could also cause the overrun price to increase above zero, undermining the effectiveness of the sharing arrangement between generator A and generator B.

4.10.44 In these circumstances, generator A is not able to extract the full value of their transmission access rights due to the actions of a third party. This would be solved if generator A and generator B were to enter a sharing arrangement with the associated transmission access exchange rate based on the ratio of the (ex post) nodal overrun prices. Now, if generator C decides to generate, this would push the overrun price at the generator A node and the generator B node such that the exchange rate remains constant.

4.10.45 In more complex examples, the actions of generator C may cause the exchange rate between generator A and generator B to diminish, as there would be a constraint between generator A and generator B, but the value of generator A's transmission access rights at generator B's node would always be accurately reflected.

4.10.46 Working Group 3 considered the following high-level process for exchange rates determined by the ratio of overrun prices, noting that this option for sharing transmission access rights was reliant on the approval of the CUSC amendment (CAP162) to introduce overrun prices calculated in a cost reflective manner. The Working Group subsequently agreed that this option was only applicable with overrun with a marginal price, as described in the Final Conclusions from Working Group 3 below.

***(a) Users notify National Grid of sharing arrangement***

i. It has been assumed that a joint request for a sharing arrangement would be made by a User with transmission access rights (seeking to donate) and a User without transmission access rights (seeking to receive).

ii. The request would state a 'go-live' date and 'end-date' for the arrangement, along with a maximum capacity in MW. The

maximum capacity is included to allow a User to donate to a number of receiving Users.

iii. The request would need to be made [x] days ahead of time to allow for the necessary administrative process to be undertaken.

iv. The Sharing arrangement and associated 'go-live' date and 'end-date' would need to be recorded in a central register.

***(b) National Grid calculates transmission access exchange rates based on ratio of (ex post) overrun prices***

i. For a donation of transmission access rights from node A to node B, the exchange rate would be calculated as:

$$Exchange\ rate = \frac{Overrun\ price_{Node\ A}}{Overrun\ price_{Node\ B}}$$

Therefore, if the power station at node A reduces output to 100MW below its total transmission access rights holding, and the overrun prices are £45/MWh at node A and £50/MWh at node B, this would provide for the following at node B:

$$100MW \times \left[\frac{£45/MWh}{£50/MWh}\right] = 90MW$$

ii. This calculation would be performed for each half-hour for which the sharing arrangement is valid (i.e. between 'go-live' date and 'end date'.

***(c) Results from calculations in (b) form inputs to calculation of overrun volume***

i. It should be noted that this calculation is reliant upon overrun prices being calculated prior to the final volumes of overrun being known. (This cannot be done for the Cost Recovery methodology)

ii. The volumes of overrun at each node would need to be corrected for these exchange rates. If, in the example above, a generator at node B without access rights generated 100MW, this would initially be considered as 100MW of overrun, but the exchange rate would then be calculated which would essentially show a 100MW donation from node A providing 90MW of transmission access rights at node B and the overrun volume would be corrected from 100MW to (100MW-90MW=) 10MW.

**Fixed point to point exchange rate calculated by National Grid**

4.10.47 Whilst option 1 (exchange rate determined by ratio of nodal overrun prices) may be acceptable for Users that are reasonably (electrically) proximate, this is unlikely to be the case for generators that are further apart, due to the increased risk of a binding constraint that effects the receiving (but not the donating) generator. In order to facilitate sharing for these power stations, National Grid could calculate a fixed transmission access exchange rate that could be applied.

4.10.48 The work to investigate 1:1 sharing within pre-defined zones has identified significant risks due to actual node to node exchange rates being dependent upon:

(a) The volume of transmission access rights shared: A node to node exchange rate calculated based on a transfer of 1MW may be incorrect for a transfer of 10MW, 100MW or 1GW.

(b) Other transmission access right sharing: The exchange rate between nodes A and B may be incorrect if there is a transfer between nodes C and D.
(c) Other time dependent transmission system conditions: On the day transmission system conditions, such as demand and circuit outage conditions, also impact on node to node exchange rates.

4.10.49 In order to ensure that reasonable node to node exchange rates can be calculated, the User would need to minimise uncertainty by specifying the maximum volume of transmission access rights to be Shared and the timing and the duration of the sharing arrangement.

4.10.50 Working Group 3 considered the following high-level process for fixed point to point transmission access exchange rates calculated by National Grid.

(a) Users apply to National Grid for a fixed exchange rate
   i. It has been assumed that a joint request for a sharing arrangement would be made by a User with transmission access rights (seeking to donate) and a User without access rights (seeking to receive).
   ii. The Users would be liable to pay a fee to cover the cost of the analysis performed by National Grid.
   iii. The request would state a 'go-live date' and 'end-date' for the arrangement, along with a maximum capacity in MW. As described above, the fixed duration and maximum volume information is required to cap the risk associated with the sharing arrangement, allowing the SO to calculate a reasonable fixed exchange rate.

(b) National Grid calculates fixed point to point exchange rate
   i. The request would need to be made a number of weeks ahead of time to allow for an engineering assessment to be undertaken by National Grid (the number of weeks of analysis would depend on the duration of the exchange rate).
   ii. For applications for exchange rates within the current operational year, the assessment would be based on the current transmission system and would be performed against the requirements of the operational criteria contained in the SQSS. This assessment would reflect the information that is available in these timescales, including demand level and planned transmission system outages.
   iii. For applications for exchange rates that go beyond the current operational year, the assessment would be against the current and committed transmission system (including planned reinforcements) and would be performed against the requirements of the planning criteria contained in the SQSS.
   iv. The Working Group subsequently considered that this assessment should not increase socialised constraint costs or sterilise boundary capability

(c) National Grid offers fixed exchange rate and user has 2 weeks to accept. If accepted, the Sharing arrangement and associated 'go-live date' and 'end-date' would need to be recorded in a central register and used in overrun volume calculations and future 'applications' for capacity/exchange rates. The appropriate charge for this was considered to be a cost-reflective fee based on the administration costs.

**Point to point access rights released by National Grid**

4.10.51 In the event that a fixed transmission access exchange rate provided by the aforementioned option above was considered to be unacceptably low, Users may want the Transmission Owners to invest in order to achieve a point-to-point capability. Such investment could be minor (and therefore relatively quick) when compared to the investment required to provide that same User with full entry rights.

4.10.52 In this option, a User would apply to National Grid for a transmission access right between [Node A] and [Node B] for a maximum of [x] MW and a duration of [Y] years. National Grid would then assess that application against the current planning baseline with an additional [X] MW of generation at Node A and an additional [X] MW of demand at Node B.

4.10.53 National Grid would then offer a point-to-point transmission access right to the User, with the offer including a list of reinforcement works triggered by that application. In the event that the User then accepts this offer, a point-to-point right is only available when reinforcements have been completed. The point-to-point right is recorded and used in overrun volume calculations and future 'applications' for capacity / exchange rates / point to point rights. It was considered appropriate that a User should pay the TNUoS differential between Node A and Node B for [Y] years.

**Cost of Constraint Analysis on the Short/medium Generation Zones**

4.10.54 The expected impact from implementation of the proposed short/medium term generation zones was presented during the tenth meeting of Working Group 3 on 12th September. An examination was made of the potential additional costs of constraints incurred as a result of transmission access sharing within zones. National Grid noted that where generators are permitted to connect to the transmission system without the requirement to undertake wider system reinforcement, this is likely to result in additional system boundary constraints and increase the constraint volumes on the existing constraint boundaries.

4.10.55 Working Group 3 considered that further thought regarding the range of assumptions was required in the pursuit of calculating the utilisation element of constraint cost. Problems with trying to make predictions about future constraint cost trends from using historic SO costs were identified. It was noted that in a zone which flips between importing and exporting, it is not appropriate to attribute a cost to the boundary constraint under a winter peak scenario as it might not always be obvious if costs are related to an export or an import. In these cases, the data used needs to be further analysed to properly attribute an export or import cost against the corresponding linear trending in export or import utilisation.

4.10.56 The locational element of constraint cost was also analysed. One to one trading was considered to be acceptable up to a point of 'headroom', beyond which a specific point to point arrangement would be required. It was noted that any trade undertaken will change the size and validity of the headroom. It was considered that this headroom figure could be fixed for a year, with some risk of an increase in constraints prior to re-calculation in the following year.

**Initial Working Group 3 Conclusions**

4.10.57 Prior to the eleventh meeting of Working Group 3 held on 24th September, National Grid circulated a report[4] that examined the potential additional costs of constraints that would be incurred by the sharing of transmission access within generation zones. The additional utilisation and location costs are calculated using a set of proposed generation zones. The calculations presented have considered factors including headroom, sensitivity factors and loading curves from the generators. The results indicated a total (utilisation + location elements) additional cost of constraints of about £37m per annum if trading up to the headroom level only is allowed. If trading beyond the headroom was undertaken up to 2 times the headroom, the cost of constraints could potentially rise to £1.1 billion per annum for the upper range and a potential saving of about £0.2 billion per annum for the lower range. The £0.2 billion saving is the total cost of constraint from the utilisation element plus the average historical cost of constraint that can be saved. The actual cost would vary depending on the system running arrangement, the characteristics of the generators and the duration of transmission access exchange.

4.10.58 During this eleventh meeting, a summary of the options considered was made. A zoning methodology that results in small zones, with a minimal increase in constraint costs, severely limits the liquidity of tradable capacity. The Working Group recognised that methodologies that form large trading zones provide greater tradability, although the increased operational constraint costs which could result from such zones was considered too great a risk. The remaining options are (i) Larger zones, with trading limited to headroom on a point to point and beyond basis, with an allocation process for headroom and subsequent re-allocation process following the completion of a trade, was considered as a viable option by the Working Group. The downside however, was identified as being the complexity of the arrangements which would be required, the potential for hoarding capacity and that trades would be limited to within-zone; or (ii) A nodal point to point option for the sharing of system access which the Working Group also concluded was a viable option.

**Final Conclusions from Working Group 3**

4.10.59 The final Working Group 3 meeting was held on the 10th November, during which the key issues and areas for further confirmation from the consultation phase were discussed. One Working Group Consultation response stated that zones will lead to increased shared constraint costs but conversely, an overly pessimistic methodology may lead to under utilisation of capacity sharing. The Working Group concurred that the analysis previously presented showed that a zonal methodology with large zones has a significant risk of increasing total socialised constraint costs. National Grid discussed how, when determining nodal exchange rates, all feasible worst case system operation scenarios must be considered, in order to meet the principle of maintaining cost levels.

4 http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/workingstandinggroups/wg161-166/

4.10.60 A respondent stated that a node to node exchange rate that was significantly different from 1:1 would reduce the effectiveness of sharing. Working Group 3 concurred and reiterated that this is likely to lead to sharing to occur mainly between proximate generators and it was concluded that the exchange rate should be capped at a maximum of 1 to 1 in order to prevent the ability for a User with multiple generators to book capacity and share it in order to minimise transmission charges. A view was expressed in a consultation response that capacity entry sharing should be available in both long term and short term timescales to which the Working Group agreed, although it was recognised that exchange rates may differ between the two as certainty increases towards real time.

4.10.61 A respondent stated that a nodal exchange rate methodology must be robust and transparent, but it is felt that this may introduce unnecessary complexity and therefore cost. Whilst the Working Group agreed nodal point to point exchange rates requires a degree of complexity, ultimately it avoids the requirement to achieve a balance between limiting zonal tradability with an onerous headroom limit and introducing unacceptable risks through significant increases in socialised constraint costs. Working Group 3 therefore concluded that a node to node exchange rate methodology should be applied.

4.10.62 A respondent questioned how exchange rates based on zonal overrun prices would be calculated. The Working Group discussed the options for overrun pricing set-out in Charging Pre-consultation GB ECM-14 (Consequential impact of CUSC amendment proposals: CAP161, CAP162, CAP163 and CAP164). The options are:

(i) Simple Methodology;
(ii) Cost Recovery Methodology; and
(iii) Marginal Methodology.

4.10.63 The simple methodology is based on historic constraint data, which is mapped to 24 indicative constraint zones. This means that all the nodes in a particular zone would be subject to the same overrun price. The Working Group noted that implementing node to node exchange rates based on these overrun prices would essentially allow unfettered sharing with a 1:1 exchange rate within these zones.

4.10.64 The Working Group agreed that whilst these zones may give the appropriate level of accuracy for a simple pricing methodology (where the impact is limited by the Local Capacity Nomination), the analysis performed previously would suggest that allowing sharing on this basis would cause an unacceptable increase in socialised constraint costs. For this reason, the Working Group agreed that node to node sharing with exchange rates based on the ratio of ex post overrun prices should not be an option with the simple overrun pricing methodology.

4.10.65 Where the cost recovery methodology is based on a “degut” of the actual costs performed ex post by the System Operator, a methodology is used to attribute actual costs to the volume of overrun to calculate a £/MWh overrun price. Whilst, unlike the simple methodology, this cost allocation will be nodal, the Working Group agreed that this methodology would be inconsistent with node to node sharing based on the ratio of overrun prices. This conclusion is based on concerns about the interaction between the derivation of the price and volume of overrun (i.e. it would not be possible to calculate the overrun price until the overrun volume is

known, and with sharing the volume is not known until the ratio of overrun prices is determined).

4.10.66 The marginal methodology is based on a model of the transmission system which is optimised to minimise system balancing costs. The optimisation generates nodal marginal overrun prices (shadow costs). The Working Group noted that this pricing option was at an early stage of development, but agreed that provided it was developed such that truly nodal (rather than boundary based) prices were produced, then it would be appropriate for use with node to node sharing with the exchange rate determined by the ratio of nodal overrun prices.

4.10.67 In summary, the Working Group agreed that node to node sharing with an exchange rate based on the (ex post) overrun prices should only be implemented if the marginal overrun pricing option is implemented.

4.10.68 One respondent specifically sought clarification for how codification could be implemented when three or more parties are involved in the transfer if the exchange rate is not 1:1. If different exchange rates are set for each exchange (there could potentially be 6 exchange rates for 3 parties) the codified approach would need to allocate TEC between parties such that monitoring can take place. The Working Group agreed that in cases where three or more parties are involved in the share, complex arrangements would be required to ensure an efficient outcome. Furthermore, the Working Group agreed that the number of parties involved in a share should be limited to two at this stage, but that this limitation should be reviewed when there is some experience of the sharing arrangements.

4.10.69 Several respondents to the Working Group Consultation requested clarification of how node to node access capacity exchange rates would be calculated. The Working Group agreed that further illustration would provide additional clarity.

4.10.70 The Working Group agreed that the basis of the exchange rate should be to “leave the system whole” such that any spare boundary capability is not used up and there are therefore no concerns about node to node sharing arrangements sterilising boundary capability.

**Offshore generation**

4.10.71 Working Group 3 gave consideration to offshore generation and how this would be incorporated into zones. It was noted that offshore generation is currently being modelled at the landing point, assuming a radial connection and Grid Code compliance at the point of connection.

**Governance**

4.10.72 Two approaches towards the governance of a new zoning methodology were considered by Working Group 3:

1. A new Licence Condition could be written into the Transmission Licence similar to that which exists for the Use of System Charging Methodology (Standard Licence Condition C5) and the Connection Charging Methodology (Standard Licence Condition C6).
2. The governance arrangements for the new methodology could sit in the CUSC.

4.10.73 The Working Group considered that the CUSC defines the transmission access product and since zoning is part of the definition of the product, then it would be appropriate to include this as an Annex to the CUSC. Whilst this was the preferred option, the option of a Licence Condition was not ruled out.

## 4.11 Arrangements for Local Connections

4.11.1 The arrangements for local connections were developed by Working Group 3, and the conclusions are described below.

Definition of Local Capacity Nomination

4.11.2 Working Group 3 proposed that for generators with local only connections, a local access product should be developed. This concept, the Local Capacity Nomination (LCN) would be the maximum capacity (in MW) to which a generator is entitled to obtain transmission access products (long-term and short-term access products and overrun) within a charging year. It was also identified that it must not exceed the Connection Entry Capacity (CEC) of that generator to avoid damage to local transmission assets.

Summary of the properties of Local Capacity Nomination

4.11.3 LCN was determined by Working Group 3 to have the following properties:

- LCN is the term used by a generator to notify National Grid of its desired maximum local capacity holding in a transmission charging year;
- LCN represents the physical (and contractual) cap on the total generators' transmission access (MW) derived from a combination of all long and short-term transmission access products, including overrun;
- LCN will not exceed a generator's CEC;
- LCN is defined on a Power Station basis (consistent with TEC);
- LCN will be allocated on a first-come-first-served basis;
- LCN will be the basis upon which a generators' local asset charge will be calculated and levied;
- LCN is shareable between generators, when multiple generators agree to share. Any sharing arrangement would be managed with a clause which, in the case of two generators sharing, would restrict one generator if the other generator is using the local connection capacity and vice versa. This approach is similar to that currently adopted to deal with design variation connections.

Enduring arrangements for existing LCN holders

4.11.4 Working Group 3 debated as to whether LCN should be a finite right, linked (or not) to the period of firm transmission capacity obtained in an auction, or evergreen. Given that a generator may not wish to obtain long-term capacity through an auction process, it did not seem appropriate to link LCN to capacity obtained through the auction.

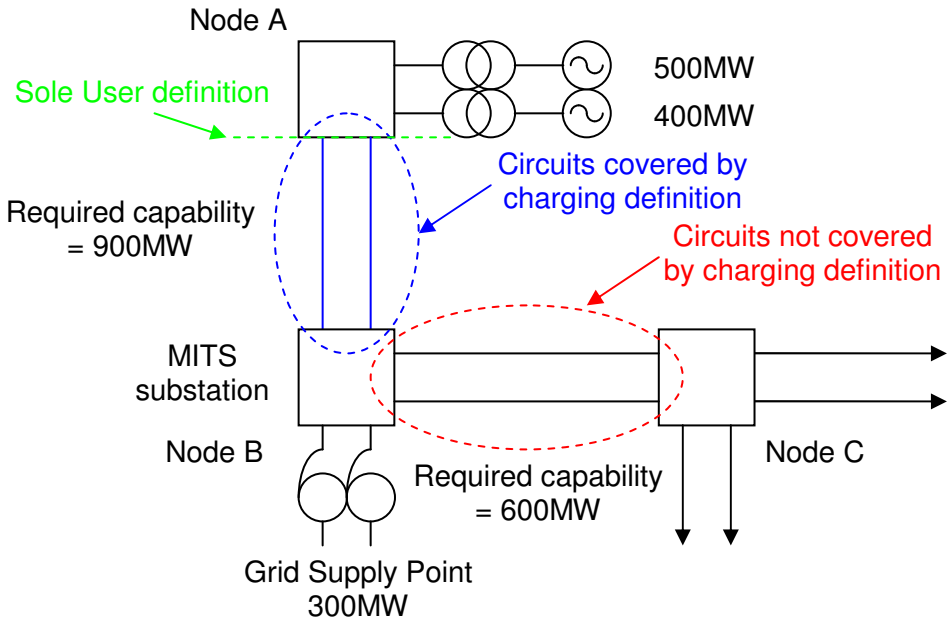
4.11.5 Working Group 3 considered that evergreen rights would be appropriate provided the definition of local assets is generally limited to "sole use" assets; i.e. local assets are not shareable. Where local assets (which are not shared) come to the end of their life, the TO could determine whether they should be replaced following bilateral discussions with the relevant generator. It was noted that the proposed charging definition of local works included shared use assets in some circumstances and some Working Group members believed that it might be appropriate to change

the definition of local assets in these circumstances in order to ensure that they are not shared.

4.11.6 The problem with the "sole use" approach to local assets is that it may not in all circumstances be consistent with the principle of ensuring that Users which purchase short-term access products or share, make an appropriate contribution to the cost of the assets that are provided to facilitate their connection. If a "sole use" definition of local assets were to be adopted, then the cost of "spur" circuits to entry points with multiple generators will not be based on LCN (in MW). In the extreme circumstance of a generator choosing a "local only" connection at an entry point at which other generators are connected, that generator would not make any contribution to the cost of the transmission assets required to provide their connection.

4.11.7 This is shown in the below diagram. If a "sole User" definition were to be applied (this is represented by the dotted green line), neither generator would make any contribution to the cost of the spur (shown by the blue lines) required solely to provide their connection.

Potential Definitions of Local Works




4.11.8 The Working Group therefore concluded that local assets should not be limited to "sole use" assets. The Working Group considered that an alternative approach would be to use the definition from the "local generation charging" proposals contained in National Grid's GB ECM-11 Conclusions Report, which is that local circuits are those between an entry point and the next Main Interconnected Transmission System (MITS) substations, where a MITS substation is defined as a Grid Supply Point with more than one circuit connected or a substation with more than four transmission circuits connected. In the diagram above, these local circuits are highlighted in blue.

4.11.9 In this simplified example, the circuits between node A and the next MITS substation (node B) would be defined as "local" under the charging definition. This means that the generators at node A would get access once these circuits had been reinforced to provide a secure capability of 900MW. However, the circuits between node B and node C would not be covered by the charging definition of "local". This would lead to a permanent restriction to the output of the generators unless these circuits were reinforced to provide a secure capability of at least 600MW.

4.11.10 As described in 4.10.22 above, the Working Group originally considered that different charging and CUSC definitions of "local" works may be required to:

- Avoid circumstances in which there would be a permanent output restriction on generators being connected; and
- Protect individual generators from the actions of others or the decisions of the Transmission Owners.

4.11.11 On 10th November, Working Group 3 reviewed the consultation responses, allowing further discussion to be undertaken. The Working Group expressed concerns associated with different charging and CUSC definitions of "local" works. The Working Group noted that if the CUSC definition leads to reinforcement works that go beyond the next MITS substation in order to avoid permanent restrictions, then a user with LCN only will essentially be getting transmission access without paying the associated cost reflective charge.

4.11.12 Based on this concern, the Working Group agreed that the charging definition for local works should be consistent with the CUSC definition. The Working Group noted that there were scenarios where this definition could lead to a permanent output restriction being placed on a generator and that this would be reflected in bids for short-term access being turned down, restricted sharing exchange rates and high overrun prices. The Working Group also noted that the proposals for node-to-node sharing arrangements would allow generators in this position to apply for node-to-node access rights to facilitate sharing with other generators.

4.11.13 One Working Group Consultation respondent expressed concern that the initial view was to define LCN as a finite right, stating that generally local assets should not be shareable with other generators and that finite right arrangements are only required to redistribute assets that are no longer required by a User but can be used by other generators. During the final Working Group 3 meeting, the majority of Working Group 3 agreed that an enduring right approach was appropriate for sole user assets. National Grid completed some further analysis of the existing system and concluded that, given the relatively shallow nature of local works as defined, there were very few instances in which an enduring LCN right could risk causing inefficient investment of delays to the entry of new power stations.

4.11.14 It was acknowledged that since it is a feasible circumstance that multiple Users may wish to share LCN and the associated local assets, arrangements would be required to facilitate this. Working Group 3 agreed that this could be dealt with by including access restrictions in the generators connection agreement. This is similar to the treatment currently used to deal with connection design variations. The Transmission Owner would build sufficient local assets to cope with the shared holding of LCN only.

Application processes

4.11.15 **New connections:** Existing applications for new generation connections are progressed in line with Section 2.13 of the CUSC: *New Connection Sites, based on the desired CEC and TEC of the applicant*. Following any implementation of one or more of the suite of CUSC Transmission Access Review Amendments (CAPs 161-166), it is foreseeable that a generator may wish to obtain only short-term access products following connection. Given that a generator's LCN will determine the level of obtainable short-term (and long-term) transmission access, and provide the basis upon which the TO decides on an economic level of transmission investment, the concept of LCN needs to be introduced into CUSC Exhibit B*: Connection Application*. A connection application will then be progressed under the same process as any other connection application.

4.11.16 **Existing connections wishing to increase LCN:** Section 6.30.2 of the CUSC: *Increase in Transmission Entry Capacity* defines the process by which generators can currently apply to increase their TEC. Any request from a User to increase its TEC for a connection site up to a maximum of its CEC is deemed to be a modification. This approach also appears appropriate for Users wishing to apply for an increase in LCN. In the event that multiple generators were sharing LCN, the application would have to be made on behalf of all of the generators involved.

4.11.17 **Application fees:** Given the proposed changes to the transmission access regime, it is considered appropriate that the current application fees included in the Statement of Use of System Charges, should be reviewed to differentiate between connection, local, and wider transmission system applications. Fixed and variable application fees will remain in operation. The Working Group noted in particular that generators wishing to increase LCN above their current TEC level during transition should not be exposed to the full Modification Application fee currently associated with changes in TEC.

4.11.18 **Pre-commissioning user commitment:** Working Group 3 identified that there are a number of potential options for arrangements to provide pre-commissioning user commitment:

- Cost-reflective final sums liabilities (possibly capped at the original offer);
- A liability based on the relevant Unit Cost Allowance (UCA); or
- A liability based on a multiple of the local generation TNUoS tariff.

4.11.19 Working Group 3 concluded that the requirement for pre-commissioning security associated with increases in LCN should be consistent with the arrangements proposed for wider long-term transmission access under CAP165.

4.11.20 The CAP165 original proposal for wider rights is a liability that ramps up over the 4 years prior to completion, to a total of 8 times the wider generation TNUoS tariff. This is reflected in the minimum booking of wider access rights to apply post-commissioning. The 8 years is derived from analysis of TNUoS tariffs against wider UCAs, which shows that, on average, the UCAs are 15 times the TNUoS tariffs. The 15 is halved to reflect a 50/50 risk sharing between generators and consumers. Consistency would imply that the same multiplier could also be used for local connections.

4.11.21 However, there is an additional rationale for 8 years being an appropriate multiplier: If local TNUoS was exactly reflective of capital costs, then a capital payment of 8 x annuitised TNUoS would cover 50% of the capital costs. This is because the TNUoS methodology converts capital sums by assuming a 50 year asset life and a 6.25% rate of return. Annual sums can be converted into a capital sum by multiplying by:

$$(1-(1+0.0625)^{-50})/0.0625 = 15.22$$

4.11.22 If the 50% risk sharing, consistent with the CAP165 treatment for wider access is applied, the result is a multiplier of 8.

4.11.23 Local TNUoS would not recover all costs, due to Users paying for what they are using rather than what is installed. It therefore would seem appropriate that security is also provided on this basis, and that security should not be provided for TO investments made for wider system reasons.

4.11.24 The Working Group therefore concluded that, consistent with the CAP165 original treatment for wider access, pre-commissioning User commitment for local commitment should be based on a multiple of 8 years of local generation of TNUoS, profiled 25%/50%/75%/100% over the 4 years prior to completion.

4.11.25 Termination or reduction of the requested LCN would therefore result in the levying of a Local Capacity Reduction Charge, based on Local Cancellation Amounts. The Local Capacity Reduction Charge would be non-refundable.

4.11.26 The Local Cancellation Amount in each year would be a percentage of the Local Termination Amount, which is the higher of zero and eight times the relevant local generation TNUoS charge. The Local Capacity Reduction Charge would therefore be calculated as:

*Local Capacity Reduction Charge* = $LCN_r \times LCAM_t$

Where:

- $LCN_r$ is the reduction in Local Capacity Nomination in kW.
- $LCAM_t$ is the relevant Local Cancellation Amount which varies according to the number of full years from the Completion Date:
  - In the year prior to the Completion Date (i.e. t) *LCAM = LTA x 100%)*, where LTA is the Local Termination Amount;
  - Where t=-1, *LCAM = LTA x 75%*;
  - Where t=-2, *LCAM = LTA x 50%*; and
  - Where t=-3, *LCAM = LTA x 25%*.

*Local Termination Amount = Max (0,* $(LocGenTNUoS_n \times X)$*)*

Where:

- $LocGenTNUoS_n$ is the relevant nodal Local Generation TNUoS tariff applicable to the generation project and published in the Statement of use of System Charges. If such a nodal tariff is not currently published, then the appropriate tariff will be calculated by National Grid as part of the application process, in accordance with the Charging Methodology.

- *X* is a multiplier, initially taking the value 8, although it may be appropriate that this be amended in subsequent price control periods.

4.11.27 Local Cancellation Amounts will be calculated using the prevailing local Generation TNUoS tariff at the time of Capacity Reduction. Capacity Reduction Charges would not apply to projects where there are no transmission asset works.

4.11.28 **Pre-commissioning security:** The introduction of generic Local Capacity Reduction Charges, defined in the CUSC to replace the existing final sums regime, defined in the bilateral Construction Agreements, will also require the introduction of provisions to define the level of financial security that should be held in relation to these potential liabilities.

4.11.29 It is therefore to add the applicable Local Cancellation Amount to each User's Security Requirement, as defined in paragraph 3.22 of the CUSC. To the extent that these amounts exceed the Allowed Credit extended to each User, Security Cover will need to be provided to National Grid, in any of the forms prescribed in the CUSC.

4.11.30 Working Group 3 noted that alternatives to the CAP165 original amendment proposal had also been developed by Working Group 2, including cost reflective final sums liabilities. The Working Group noted that should these CAP165 alternative amendments be approved, then they would also amend the pre-commissioning liabilities and security associated with LCN to be cost reflective final sums liabilities,

4.11.31 **Existing connections wishing to decrease LCN:** Section 6.30.1 of the CUSC: *Decrease in Transmission Entry Capacity* defines the process by which generators can currently reduce their TEC. Essentially, a User is entitled to decrease its TEC giving five business days notice in writing, prior to the 30 March in a financial year, with that notified decrease in TEC taking effect on 1 April of that same year. When discussing the possibility that LCN could be evergreen, the Working Group considered that this process could be applied to LCN. (The Working Group also noted the discrepancy between the late March deadline and National Grid's requirement for charge setting data to be provided no later than 23rd December in the previous (charging) year. The Working Group recommended an alignment of the notification timescales associated with TEC / LCN reduction with the TNUoS charge-setting process.

Transitional arrangements to LCN

4.11.32 Working Group 3 considered three options for transition from the current arrangements to those which require a Local Capacity Nomination.

- LCN based on a generator's CEC
  Given that CEC is not currently linked to transmission access allocation, this option seems the least appropriate.
- LCN based on a generator's TEC
  Given that the suite of CUSC Transmission Access Review Amendments (namely CAPs 161, 162, 163, 164, 165 and 166) are potentially introducing some fundamental changes to the way in which transmission access is allocated, existing TEC may not be considered appropriate for some generators.
- Generators would request its desired LCN in advance of a pre-defined date
  Working Group 3 concluded that this option appeared to be the most practical solution, although it was noted that the value notified will be

limited to a generators CEC. In the event that a generator did not notify National Grid of its desired LCN, the use of TEC as a default value seemed appropriate. In the instance that multiple generators wish to share an LCN, a process for notification will be required. Timescales for a generator to notify National Grid of its desired LCN value will be very much dependent on the transmission access products implemented.

## 4.12 Consideration of Working Group Consultation Requests

4.12.1 The Working Group received nine Consultation Requests. Each Consultation Request was reviewed by the Working Group. These Working Group Consultation Requests were developed by the Working Group into seven potential alternatives. These and the Working Group Alternatives included are summarised in the table in Annex 6. The full responses and Consultation Request forms can be found in volume two of this report.

**Scottish and Southern Energy Consultation Request**

4.12.2 Under this consultation request new Users would be required to make a firm commitment to pay for four years fixed TNUoS charges. Users would then have an enduring right as long as TNUoS payments were maintained. A User would also be required to give a minimum of fifteen months notice to reduce TEC.

4.12.3 The group agreed the proposal could make a sensible alternative and put it forward to the Working Group vote as WGCR1. The majority of the Working Group believed WGCR1 was better than the baseline or the original so this proposal is included as one of the formal Working Group Alternative Amendments (WGAA4).

**First Hydro Consultation Request**

4.12.4 First Hydro's Consultation request has pre-comissioning user commitment based on WGAA2 the key development is that the percentage of the liability which the User is required to secure reduces as the User approaches commissioning. This alternative takes into account the view that a generation project becomes less risky as it approaches commissioning. The post commissioning commitment is base on an 8 year rolling commitment.

4.12.5 The group agreed the proposal could make a sensible alternative and put it forward to the Working Group vote as WGCR2. Half the Working Group believed WGCR2 was better than the baseline or the original and the Chair agreed the proposal should be included as one of the formal Working Group Alternative Amendments (WGAA5).

**Centrica Consultation Requests**

4.12.6 Centrica submitted two Consultation Requests the key feature of the requests was that the post-commissioning notice period was two years. The difference between the requests was in the pre-commissioning user commitment. One version was based on the WGAA1 pre-comissioning user commitment and the other was based on WGAA3 pre-commissioning user commitment.

4.12.7 Some members of the Working Group were concerned that the consultation request was similar to the CAP131 proposal which was rejected previously this year. Other members of the group supported the request and agree that two years gave users a more realistic timescale to provide closure signals.

4.12.8 The Working Group considered that it would be more appropriate to only keep one version of the request. The group reviewed the pre-comissioning arrangements for WGAA3 and considered that it was inappropriate to give users the choice between final sums and a generic commitment on an enduring basis. Giving Users the option to choose which type of commitment they choose undermines the assumption that the generic methodology will recover costs on average. The group considered that WGAA3 would give an improved share of risks if it was based on only the generic User commitment.

4.12.9 The group decided to vote on whether an alternative with WGAA3 style User commitment pre-commissioning and a two year notice period should be included in the final report. The proposal went forward to the Working Group vote as WGCR3. Half the Working Group believed WGCR3 was better than the baseline or the original and the Chair agreed the proposal should be included as one of the formal Working Group Alternative Amendments (WGAA6).

**Welsh Power's Consultation Requests**

4.12.10 Welsh Power's first request has three key components:

- At transition Users have the option to stay on their current final sums methodology.
- No financial commitment should be given more than 3 years out from the trigger date
- The cancellation amount can only be a maximum of 20% above National Grid's costs

4.12.11 The advantage of allowing Users to stay on their current user commitment methodology would save industry from having to refinance their commitment. The potential disadvantage is that any speculative projects in Scotland with no final sums due to the transition arrangements during BETTA would not be incentivised to reassess their projects.

4.12.12 Analysis was provided which showed the number of projects with no final sums was not significant. The group decided to allow Users to have the option to stay on their current user commitment methodology. The group agreed to apply this to all the Working Group Alternative Amendments.

4.12.13 One Working Group member suggested that providing user commitment more than three years before the trigger date could hold back small players from entering the market. Another member suggested that some works would be done more than three years ahead of the trigger date. Also asking for user commitment would ensure that speculative projects had some financial basis.

4.12.14 The group agreed that applying this proposal to WGAA1 and WGAA3 could make sensible alternatives and agreed to vote on whether they should be included in the final report. These proposals were included in the Working Group vote as WGCR4 and WGCR5. The majority of the Working Group did not believed WGCR4 was better than the baseline or

the original therefore the proposal is not included as one of the formal Working Group Alternative Amendments. The majority of the Working Group did believe WGCR5 was better than the baseline or the original therefore the proposal is included as one of the formal Working Group Alternative Amendments (WGAA7).

4.12.15 The group agreed that Welsh Power's suggestion to cap the amount of user commitment which could be recovered would lead to more of the risks being socialised by all Users. This was considered inappropriate.

4.12.16 The key principle of Welsh Power's second request is that the generator has the option of locking in their profile of charges. The group agreed that this feature would be advantageous and could be included in the current proposals so no alternative was required.

4.12.17 Welsh Power request 3 is based on WGAA3 but the pre comissioning user would also pay a one off, non-refundable booking fee. The group considered that any booking fee should be provided as a £/kW figure. One working group member suggested that the £1, £2, £3 profile was too high. The group considered that applying a limit to the number of years in advance users would be liable for the £/kW charge would stop this amount putting off smaller projects.

4.12.18 Welsh Power's request 4 is based on WGAA3, the key difference is that if the transmission infrastructure is delivered late the compensation should be given to the generator. The group agreed that having a fixed connection date would make a good alternative but there was not time to develop the appropriate compensation. The group considered that this could be developed through a later amendment.

**Fairwind (Orkney) Ltd's Consultation Request**

4.12.19 The group reviewed the consultation request and considered it was substantially different to the original and alternatives. After some discussion the group considered that an alternative based on WGAA3, where the security is based on a profiled percentage of the liability, would cover the concern raised regarding prohibitive securities.

4.12.20 The group agreed the proposal could make a sensible alternative and put it forward to the Working Group vote as WGCR6. The majority of the Working Group did not believe WGCR6 was better than the baseline or the original so this proposal is not included as one of the formal Working Group Alternative Amendments.

## 5.0 WORKING GROUP ALTERNATIVE AMENDMENTS

5.1 As a result of their discussions, Working Group members decided to put forward seven Working Group Alternative Amendments.

**Working Group Alternative Amendment 1 (WGAA1)**

5.2 WGAA1 was proposed by National Grid, and represents a change to the original, in that access rights would be defined on a nodal, rather than zonal, basis. It was adopted by the Working Group as a formal Working Group Alternative as a majority of Working Group members believed it to better facilitate the CUSC objectives when compared with the original amendment.

5.3 This alternative has been proposed based on the findings of Working Group three. As noted in Working Group 3's discussion, zones to allow for sharing would be impractically small and large zones would cause high costs. This analysis leads to the conclusion that nodally defined access rights would be appropriate for CAP165.

5.4 All pre-commissioning security arrangements and liabilities would remain the same as in the original amendment except that a user will need to apply for access at a node rather than access to a zone. The cancellation amount and user commitment amounts would still be based on the zonal TNUoS charge, with this zonal TNUoS Charge being fixed at the prevailing TNUoS tariff at the last date at which a Construction Agreement could be signed.

5.5 Post Commissioning Securities would be set at zero, effectively a roll forward of the existing post-commissioning financial security arrangements. Liabilities would remain as per the original as the remainder of the finite rights booking.

5.6 Should CAP165 or any of its Working Group Alternative Amendments ultimately be approved by the Authority then Users who have entered into a Construction Agreement prior to such amendments to the CUSC being implemented will be given the option to retain their existing "pre-CAP165" security arrangements.

5.7 The original amendment anticipated users being able to share TEC on a 1:1 zonal basis this would not work under the nodal alternative for CAP165. Options for introducing sharing under nodal arrangements have been considered in CAP163.

**Working Group Alternative Amendment 2 (WGAA2)**

5.8 Working Group Alternative Amendment 2 (WGAA2) was proposed by a Working Group member. The principle difference between WGAA2 and WGAA1 is in the User commitment associated with pre-commissioning generators. Working Group Alternative 2 was approved as a Working Group Alternative by the Chair of the Working Group.

5.9 In WGAA2, pre-commissioning generators would be required to secure "Pre-Commissioning Liabilities" (PCLs). PCLs would be estimated by National Grid to cover all of the costs of local and wider transmission access works required and known at the time of the connection offer. The PCL would form part of the offer and would remain a fixed profile until such time as the User completes and connects to the system, or modifies its agreement, at which time National Grid may revise the PCLs.

5.10 If a party terminates prior to completion, the liabilities would become due. If the stranded costs are less than the PCL, the User would be refunded the difference. If the costs were greater than the PCL, there would be no additional liabilities due to the User.

5.11 By entering a BCA, or BEGA (where the generator was greater than 100MW), a party would pre-qualify to reserve long term entry access rights, and the period of the booking would need to be confirmed before the commencement of any transmission works. There would be a pre-defined minimum booking period of 8 years, consistent with the CAP165 original proposal with a liability for these charges associated with the long-term transmission rights booking being triggered at completion. Security for post-commissioning Users would be based on the balance of the current years' charges, as in the original CAP165 amendment and WGAA1.

5.12 The proposed PCL regime differs from the existing final sums arrangements in two ways. Firstly, it would be codified in the CUSC, and secondly, the PCLs would be fixed at the time of the offer. It should be noted that the fixed PCL would therefore carry an under-recovery risk for National Grid, which would require management. (This would arise in the event that a User terminates prior to connection, and the PCL is not sufficient to recover the stranded costs. This will depend on how many of the assets purchased can be reused. There would be no offsetting of over-recoveries, as where any PCLs were greater than stranded costs then this would be result in the difference being refunded to the terminating User.)

5.13 Post Commissioning Securities would be set at zero, effectively a roll forward of the existing post-commissioning financial security arrangements. Liabilities would remain as per the original as the remainder of the finite rights booking.

5.14 Should CAP165 or any of its Working Group Alternative Amendments ultimately be approved by the Authority then Users who have entered into a Construction Agreement prior to such amendments to the CUSC being implemented will be given the option to retain their existing "pre-CAP165" security arrangements.

**Working Group Alternative Amendment 3 (WGAA3)**

5.15 Working Group Alternative Amendment 3 (WGAA3) was proposed by a Working Group member. WGAA3 differs from WGAA1 in its treatment of both the pre- and post-commissioning User commitment. It was adopted by the Working Group as a formal Working Group Alternative as a majority of Working Group members believed it to better facilitate the CUSC objectives when compared with the original amendment.

5.16 Pre-commissioning User commitment is similar to that under WGAA1. The Trigger Date and Completion Date will be determined as in the CAP165 original amendment

5.17 Prior to the Trigger Date, the User would be liable for User Commitment Charges based upon User Commitment Amounts, which would be calculated using a generic methodology based on a value of £1/kW commencing upon signature of the Construction Agreement. This would increase by £1/kW following each full year up to the Trigger Date, subject to a cap of £3/kW. For

the avoidance of doubt, positive User Commitment Amounts will be payable regardless of whether the User is in a positive or a negative charging zone.

5.18 Post Trigger Date but before the Completion Date Users will be liable for Cancellation Charges based upon Cancellation amounts should they terminate their agreements. These Cancellation Charges will be based upon Cancellation Amounts equal to the greater of (i) TNUoS multiplied by eight years, and (ii) zero.

5.19 The liability shall remain fixed until the user connects, or modifies the agreement. The liability would be payable on a fixed profile over the four years prior to connection, using a 25%/50%/75%/100% profile as in the CAP165 original. It should also be noted that in the event that a User is in a negative TNUoS Charging zone it shall continue to be liable to pay a Cancellation Amount equal to £3/kW in each year between the Trigger Date and Completion Date.

5.20 The pre-commissioning liability (regardless of the option chosen) would be non-refundable should the User cancel the agreement prior to connection. This means that the amount committed by the User would remain with the TO and that the assets would remain the property of the TO (and can be reused as the TO wishes), with no refund given to the User, even if the assets are re-used. In the view of the proposer of WGAA3, the non-refundable nature of the pre-commissioning liability would be a quid pro quo for the User's ability to use the TNUoS multiplied by eight years methodology (which may over or under-recover the stranded asset costs in individual cases, but would on average recover sufficient amounts).

5.21 Should CAP165 or any of its Working Group Alternative Amendments ultimately be approved by the Authority then Users who have entered into a Construction Agreement prior to such amendments to the CUSC being implemented will be given the option to retain their existing "pre-CAP165" security arrangements.

5.22 Under WGAA3, post-commissioning User commitment would be given by a liability to pay TNUoS for a Commitment Period. In the view of the proposer of WGAA3, the length of the Commitment Period should:

- Allow generators to respond to market conditions; and
- Provide National Grid with adequate closure signals.

Post Commissioning Securities would be set at zero, effectively a roll forward of the existing post-commissioning financial security arrangements.

5.23 WGAA3 has a four year Commitment Period, based upon:

- National Grid analysis suggesting an average (mean) six year period from signing a connection agreement to commissioning
- UK power market tends to have 2-3 year liquidity
  - However, when hedging large plant this is closer to 2 years due to lower liquidity in later years
- The effect of new legislation needs to be taken into account
  - Creation of new legislation tends to be a lengthy process
  - However, the detailed effects of new legislation tend to be known later in the process
- The four year commitment period provides a three year notice period
  - CAP131 analysis suggests that up to on average 12.5% of transmission investment occurs >3.5 years prior to commissioning

  - Therefore, the proposal could avoid up to 87.5% of unrequired pre-commissioning investment
- The Commitment Period should be based upon whole financial years (i.e. April – March)

5.24 In the view of the proposer of WGAA3, this is a compromise solution that shares the risk between generators and National Grid.

5.25 All current and newly commissioned generators would follow the same process, although:

- Existing generators at the time of approval would follow the "Transition Period Process"
- New generators would have to commit to the system for a minimum period of four years

5.26 By the 31 March (or prior working day if this falls on a non-working day each year, each generator would have to decide whether to:

(a) Remain on the system for another 4 years
- No action would be required by the generator
- National Grid would receive TNUoS for the generator for at least the following four years
- National Grid would have a signal that further investment is viable in the applicable area; or

(b) Decide to leave the system after the next three years
- The generator would submit a "Commitment Notice"
- National Grid would receive TNUoS from the generator each year for the next three years only
- The generator would leave the system at the end of the three years. For clarity, an example would be:
  - Generator submits a Commitment Notice on 31 March 2009
  - Generator does <u>not</u> have the option to remain on the system beyond the third year of the notice period, unless they successfully reapply for capacity
- At the end of the Notice period, the generator would relinquish their wider transmission access rights and would have to reapply (just as a new User would) for wider transmission access rights in the future.

5.27 A generator could choose to relinquish their long term wider transmission access rights early at any time. However, the generator would have to pay National Grid the greater of:

(a) Any outstanding commitment for the current year, plus either:
- If <u>no</u> Commitment Notice has been received, the relevant commitment for the next three years
- If a Commitment Notice <u>has</u> been received, the relevant commitment for the remainder of the notice period; or

(b) Zero

5.28 A generator relinquishing their wider transmission access rights would have to reapply for a connection if they wish to obtain such rights in the future.

- They can only rejoin if there is capacity available
- All Users wishing to obtain wider transmission access rights will have equal priority (as between new Users and previous Users)

- A returning User must specify how many years they wish to obtain wider transmission access rights for, this being either:
  (a) A four year Commitment Period: if available, the User receives the wider transmission access rights and enters the rolling notice period regime; or
  (b) A one, two or three year Commitment Period: if available, the User commits to paying TNUoS each year, relinquishing their wider transmission access rights at the end of the requested Commitment Period (access rights would be relinquished, and the generator would have to again reapply for a connection if they wished to have wider transmission access rights)

5.29 During the transition period, existing generators would have to specify how many years they wished to remain on the system, either:

- A four year Commitment Period: the User would enter the rolling notice period regime; or
- A one, two or three year Commitment Period: the User would commit to paying TNUoS each year, relinquishing their wider transmission access rights at the end of the requested Commitment Period (transmission access rights would be relinquished, and the generator would have to again reapply for a connection if they wished to reconnect to the system)

5.30 In the view of the proposer of WGAA3, WGAA3 would provide benefits to National Grid, in that it would provide greater signals for plant closure (capacity release), therefore providing efficient investment signals for the network; would provide certainty of receiving the relevant commitment for the Commitment Period; and would facilitate a consistent definition of TEC property rights in the CUSC. For Generators, it would facilitate certainty for generators' investment plans; provide the ability to respond to the market, aligning access rights with the "liquid" market; and would keep the risk / cost of closure (due to market conditions or legislation) at a reasonable level.

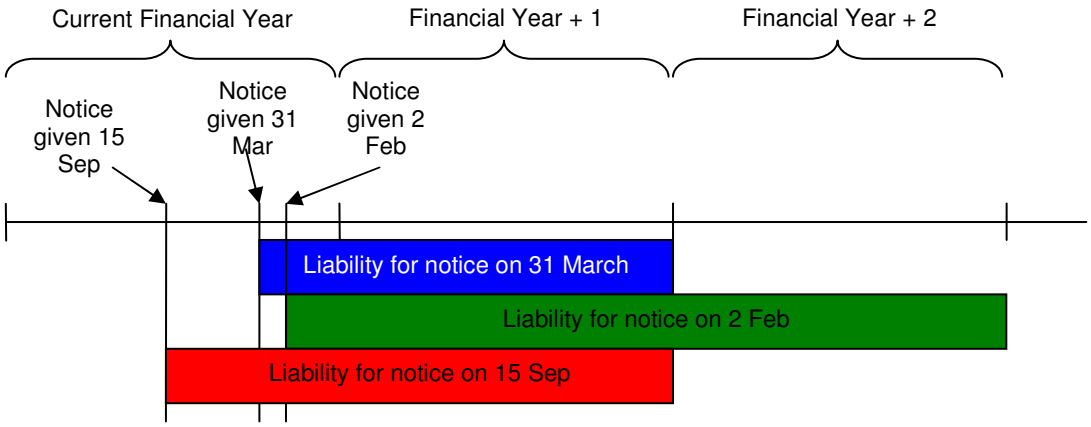
5.31 Overall, the proposer considers that it would provide certainty of transmission access for all types of generator; potentially help new investment as flexibility is guaranteed; spread risk between generators and National Grid; give minimal disruption to the industry (as it fits with the current framework); and could be implemented in conjunction with short-term transmission access modifications (CAPs 161, 162 and 163).

**Working Group Alternative Amendment 4 (WGAA4)**

5.32 Working Group Alternative 4 was proposed by a respondent to the Working Group Consultation. It was adopted by the Working Group as a formal Working Group Alternative as a majority of Working Group members believed it to better facilitate the CUSC objectives when compared with the original amendment. Working Group Alternative 4 is based substantially on Working Group Alternative 3 with the exception that existing Users would be required to give 15 months notice that they wish to relinquish their long term access rights rather than the 4 years notice contained within WGAA3. Existing Users would not go through the "Transition Process" described in 5.29 above, but rather they would immediately move to a rolling 15-month rolling notice period.

5.33 New users would still be required to commit to a minimum 4 year booking as in WGAA3.

5.34 The pre-commissioning security and liability arrangements for WGAA4 would be the same as in WGAA3. Post Commissioning security would likewise be zero, and the liability for a post-commissioning generator would be set at the remainder of its 15-month notice period should it terminate. It is noted that due to the annual nature of the transmission access product, Users would need to give notice before 1st January in a given financial year to prevent further exposure to TNUoS charges for the remainder of the current financial year and the next two financial years and instead restrict it to only the remainder of the current financial year and the next following financial year. This is shown diagrammatically below:




**Working Group Alternative Amendment 5 (WGAA5)**

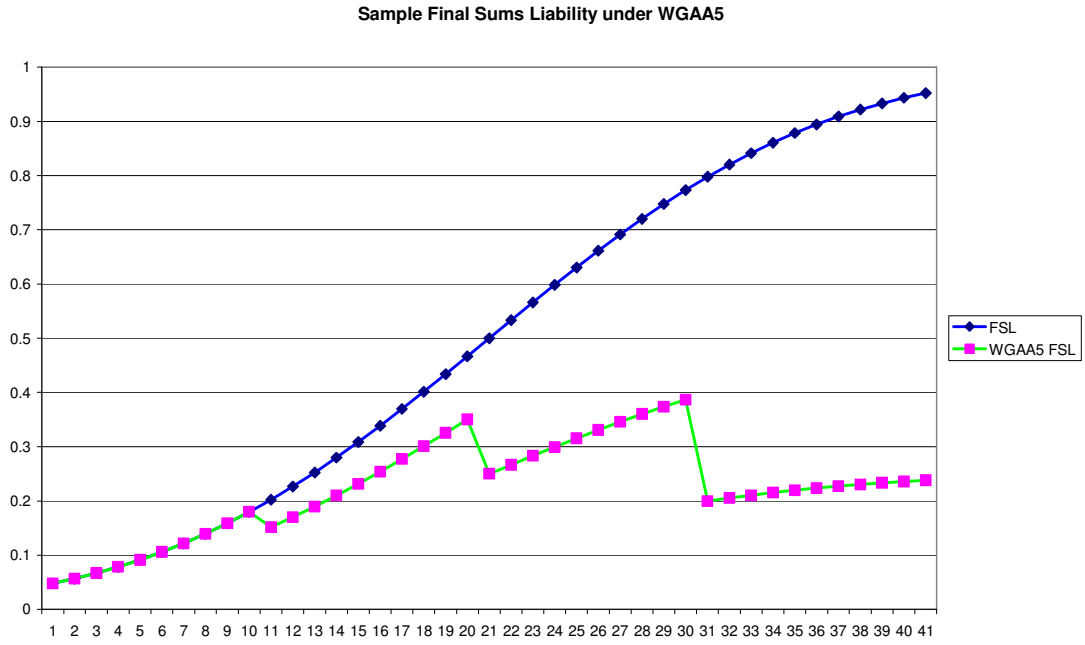
5.35 Working Group Alternative 5 was proposed by a respondent to the Working Group Consultation and later approved as Working Group Alternative 5 by the Chair of the Working Group.

5.36 The access rights granted under WGAA5 are based upon a similar premise to that put forward in WGAA3 with the exception that the rights would be on an 8-year rolling basis and not a 4-year basis as in WGAA3.

5.37 Pre-commissioning securities for Users would be set according to the Cost Reflective Fixed Final Sums methodology contained within WGAA2. However to reflect the perceived lower risk of generators defaulting close to their Completion Dates these would be scaled according to the following factors assuming a Completion Date of "T":

*For termination at T-4: 100%*
*For termination at T-3: 75%*
*For termination at T-2: 50%*
*For termination at T-1: 25%*

Diagrammatically this is as follows:




5.38 Post Commissioning Securities and Liabilities would be identical to WGAA3.

**Working Group Alternative Amendment 6 (WGAA6)**

5.39 Working Group Alternative 6 was proposed by a respondent to the Working Group Consultation. It was adopted by the Working Group as a formal Working Group Alternative as a majority of Working Group members believed it to better facilitate the CUSC objectives when compared with the original amendment.

5.40 WGAA6 is essentially identical to WGAA3 with the exception that a 2 year notice period would be required of Users to reduce their transmission access rights. This would also mean that through the Transition Process described in WGAA3, in WGAA6 transiting users would be required to nominate either a 1 or 2 year period prior to the amendment being implemented and those that nominate a two year period will move to a rolling 2 year access right. Those that nominate a single year will have to relinquish their long-term rights at the end of that year.

**Working Group Alternative Amendment 7 (WGAA7)**

5.41 Working Group Alternative 7 was proposed by a respondent to the Working Group Consultation. It was adopted by the Working Group as a formal Working Group Alternative as a majority of Working Group members believed it to better facilitate the CUSC objectives when compared with the original amendment.

5.42 Working Group Alternative 7 is based substantially around WGAA3 and differs in only one material respect. This is in the pre-commissioning securities and liabilities that a User is expected to post / incur. In WGAA3 the Pre-Trigger Date securities and liabilities are equal and are set at £1/kW in the year that the User's Construction Agreement is signed, ramping to £2/kW in the following year before moving to £3/kW in the following year and remaining at £3/kW in every successive year until the Trigger date is reached whereby this amount moves to the Cancellation Amount (except in negative charging zones where it remains at £3/kW).

5.43 WGAA7 proposes that this structure is retained with the caveat that no liabilities or equal securities are incurred until the point 7 years prior to the completion date in a construction agreement.

## 6.0 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES

**Original Amendment**

6.1 The Working Group considered the CAP165 original amendment against the applicable CUSC Objectives:

(a) the efficient discharge by the Licensee of the obligations imposed upon it by the act and the Transmission Licence; and

(b) facilitating effective competition in generation and supply of electricity and facilitating such competition in the sale, distribution and purchase of electricity.

6.2 Some Working Group members believed that the original amendment would better facilitate the achievement of applicable CUSC objective (a) in that the more efficient transmission investment signals that would result, and the consequentially reduced risk of stranding transmission assets, would better allow National Grid as the licensee to discharge its obligation under the Act to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

6.3 Such Working Group members also believed that the original amendment would better facilitate the achievement of applicable CUSC objective (b) as:

- Pre- and post-commissioning generators would be required to provide equivalent levels of user commitment liabilities, thereby ensuring the equitable treatment of the two groups;

- Existing capacity could be reallocated with certainty to new entrants as a result of the firm bookings made by existing post-commissioning generators; and

- The enhanced transparency in the commercial frameworks of required user commitments and increased certainty would address the perceived barriers to entry, thereby providing more confidence in the firmness of capacity applications, and increasing competition.

6.4 The majority of Working Group members believed that the original demotes applicable CUSC objective (a) as introducing finite rights does not provide an appropriate balance of risk between National Grid and generation. These members also believed Users may feel the need to make a commitment in line with generating plant lifetimes and with no option to extend their access period this could be of significant duration with no price certainty for the User.

6.5 Such Working Group members also believed that the original amendment would frustrate the achievement of applicable CUSC objective (b) as the amendment reduces the flexibility of generation to respond to system needs which could lead to an overall less efficient generation system. In particular it is difficult for generation to invest in life extensions for existing connections

which may actually be more efficient for carbon and Security of Supply than transfer of capacity to a new party and new build project.

6.6 The majority of the Working Group did not consider that the introduction of zones would better facilitate the CUSC objectives as this could lead to significant constraint costs.

**Working Group Alternative Amendment 1**

6.7 The Working Group considered WGAA1 against the applicable CUSC Objectives:

(a) the efficient discharge by the Licensee of the obligations imposed upon it by the act and the Transmission Licence; and

(b) facilitating effective competition in generation and supply of electricity and facilitating such competition in the sale, distribution and purchase of electricity.

6.8 Some Working Group members believed that WGAA1 would better facilitate the achievement of applicable CUSC objective (a) in that the more efficient transmission investment signals that would result, and the consequentially reduced risk of stranding transmission assets, would better allow National Grid as the licensee to discharge its obligation under the Act to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

6.9 Such Working Group members also believed that WGAA1 would better facilitate the achievement of applicable CUSC objective (b) as:

- Pre- and post-commissioning generators would be required to provide equivalent levels of user commitment liabilities, thereby ensuring the equitable treatment of the two groups;

- Existing capacity could be reallocated with certainty to new entrants as a result of the firm bookings made by existing post-commissioning generators; and

- The enhanced transparency in the commercial frameworks of required user commitments and increased certainty would address the perceived barriers to entry, thereby providing more confidence in the firmness of capacity applications, and increasing competition.

6.10 The majority of Working Group members believed that WGAA1 would better facilitate applicable CUSC objective (a) than the original amendment, in that the release of zonal access rights, as proposed under the original amendment, could lead to very significant constraint costs, and this would not be consistent with National Grid's obligation to maintain an efficient and economic transmission system.

6.11 Some Working Group members believed that WGAA1 demotes applicable CUSC objective (a) as introducing finite rights does not provide an appropriate balance of risk between National Grid and generation. These members also believed Users may feel the need to make a commitment in line with generating plant lifetimes and with no option to extend their access period this could be of significant duration with no price certainty for the User.

6.12 Such Working Group members also believed that WGAA1 would frustrate the achievement of applicable CUSC objective (b) as the amendment reduces the flexibility of generation to respond to system needs which could lead to an overall less efficient generation system. In particular it is difficult for generation to invest in life extensions for existing connections which may actually be more efficient for carbon and Security of Supply than transfer of capacity to a new party and new build project.

**Working Group Alternative Amendment 2**

6.13 The primary difference between WGAA2 and WGAA1 is the treatment of pre-commissioning User commitment, with WGAA2 featuring a system of fixed cost reflective final sums. Some Working Group members therefore believed that WGAA2 would better facilitate applicable CUSC objective (a) than WGAA1, as the cost reflective nature of the final sums would be more economic. However, other Working Group members believed that it would less well facilitate objective (b), in that pre-commissioning user commitment would be less certain, and would not be equivalent to the user commitment provided by post-commissioning generators. These Working Group members noted that very large security amounts may be required as a party's new connection may be influencing a large number of existing transmission investment projects, and that Users would have no control over, of visibility of, these.

6.14 Aside from the above differences, the assessment against the applicable CUSC objectives for WGAA2 would be as for WGAA1.

**Working Group Alternative Amendment 3**

6.15 The principle feature of WGAA3 is its four year rolling commitment period for post-commissioning Users. Some Working Group members believed that this would better facilitate applicable CUSC objective (a) by providing clear notice of plant closures to National Grid, enabling system design and planning, and, furthermore, that this alternative would ensure that the notice would be given in timescales which align with investment lead times, thereby improving efficiency of system design. They considered this would provide a better balance of risk between generators and TOs than the current baseline. Other Working Group members, while agreeing that WGAA3 would better facilitate applicable objective (a) than the current baseline, believed that the four year rolling commitment period would not provide as much information as the open ended commitment period featured in the original amendment, WGAA1 and WGAA2, and that WGAA3 would therefore not facilitate applicable objective (a) as well as these alternatives.

**Working Group Alternative Amendment 4**

6.16 Working Group Alternative Amendment 4 is essentially the same as Working Group Amendment 3 albeit with a 15 month rolling notice period rather than a 4-year rolling notice period for existing Users. Some Working Group members believed that this Alternative would better facilitate applicable objective (b) as it would enhance investor confidence in the GB Electricity market by not removing existing generators access rights and that it would also better facilitate applicable objective (a) by enhancing security of supply by again not rescinding existing access rights.

6.17 Another Working Group member viewed WGAA4 as better facilitating applicable objective (a) in the same manner as WGAA3, but that the benefits

were further weakened when compared with the amendments with finite rights due to the even further reduced notice period.

**Working Group Alternative 5**

6.18 WGAA5 being based substantially upon WGAA3 has been assessed as having the same benefits as that amendment. The assessment of the securities and liabilities that WGAA5 uses from WGAA2 also hold true with the exception that some Working Group members felt that the scaling of these securities and liabilities according to the perceived reduced risk offered to National Grid by projects nearing their Completion Date further enhanced WGAA5's assessment against applicable objective (b).

6.19 Other Working Group members felt that the scaling of Final Sums Liabilities in this manner was not warranted as the risk profile did not in their view match that proposed and as such there was a materially higher risk that projects terminating prior to their completion dates would not be providing sufficient securities to match the expenditure incurred by the TOs in constructing that User's connection and as such the amendment did not better facilitate applicable objective (a) as well as certain other alternatives or the original amendment.

**Working Group Alternative Amendment 6**

6.20 WGAA6 essentially sits part way between WGAA3 and WGAA4 when it is assessed against the applicable CUSC objectives. That is to say Working Group Members felt that it did better facilitate when assessed against both applicable objectives (a) and (b) although some Working Group members felt that it was not as good as WGAA4 (those that felt that giving greater flexibility to existing holders of long-term transmission access was most beneficial) whereas other Working Group Members believed WGAA3 to be better (those that felt that a longer notice period was preferable to give a clearer signal of the rescission of long-term rights to National Grid).

**Working Group Alternative Amendment 7**

6.21 The assessment against the applicable CUSC objectives for WGAA7 again essentially follows the same arguments as WGAA3, with some Working Group Members believing that capping User Commitment amounts at zero more than seven years ahead of a given Completion Date better facilitated Applicable Objective (b) when compared with WGAA3 as it would provide less of a barrier to entry for new connectees. Another member of the Working Group felt that as TOs may be incurring costs more than 7 years ahead of a specified completion date it was appropriate to maintain a User Commitment signal more than 7 years from a User's Completion Date and that as a result WGAA7 did not better facilitate applicable objective (a) when compared with WGAA3.

## 7.0 IMPACT ON IS SYSTEMS

7.1 The conclusions of National Grid's initial IS impact assessment for the Original Amendment and the Working Group Alternative Amendments are summarised below. These conclusions are indicative only and are subject to change following further analysis.

7.2 Costs are identified as falling into one of three broad categories (less than £500k, £500k to £1m, and £1m to £5m). Timescales are indicated by stating whether or not the necessary systems can be delivered in time (for an assumed "first run" date) given various starting dates for the projects to deliver the systems. This approach has been followed for all of the CAPs in the TAR suite in order to provide consistency.

7.3 For CAP165 it is anticipated that changes will be required to the transport model/DCLF and to the TNUoS charge calculation system. The impact of these changes is expected to be the same for the Original, WGAA1, WGAA2, WGAA3, WGAA4, WGAA5, WGAA6 and WGAA7.

| | Assumed date of decision by the Authority | First run | Months available if work begun after the Authority decision | Months available if work begun in Dec-08 | Deliverable if work begun after Authority decision? | Deliverable if work begun in Dec-08? | <£500k | £500k - £1m | £1m - £5m |
|---|---|---|---|---|---|---|---|---|---|
| Original | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA1 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA2 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA3 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA4 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA5 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA6 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |
| WGAA7 | Sep-09 | Nov-09 | 2 | 11 | NO | YES | ● | | |

7.4 There are many limitations on the scope of this initial IS impact assessment. Examples include:

1. Only the impact on National Grid's IS systems has been assessed. The impact on CUSC parties' IS systems has not been assessed.
2. Only the costs of the projects required to deliver the necessary systems have been estimated. Additional run-the-business costs relating to IS systems are likely to be incurred, these have not been estimated.
3. There has been no analysis of any IS effort or systems required during the transition from the existing arrangement to the new arrangements.
4. Each CAP and each option associated with it has been assessed in isolation. The impact on time and cost of multiple projects running in parallel has been ignored. It can be assumed that this will increase time and cost.
5. National Grid has not assessed the work against its existing IS workload to assess resource availability.

7.5 A more accurate IS impact assessment for the Original Amendment and the Working Group Alternative Amendments would require a number of items which are not currently available. These include:

1. Definition of the business requirements for the Original Amendment and the Working Group Alternative Amendments in more detail than has been discussed by the Working Groups.

2. Confirmation of certain technical assumptions which have been made during the initial analysis.
3. Identification of the combination of CAPs 161-166 that is to be implemented and for each CAP that is to be implemented whether the Original Amendment or one of the Working Group Alternative Amendments is to be implemented.

Without prejudicing the decision of the Authority, National Grid IS intends to undertake further analysis between November 2008 and March 2009. This analysis will attempt to address point 1 above by making assumptions about the most likely detailed business requirements and will attempt to address point 2 by undertaking a number of feasibility studies. To address point 3 the analysis will consider the consequences a variety of possible combinations. The results of the analysis will be made available to CUSC parties and the Authority.

## 8.0 IMPLEMENTATION AND TRANSITION

8.1 Assumptions:

1. Local charging GB ECM 11 is implemented in April 2009, or if vetoed other local charging arrangements are implemented prior to CAP165 Original or any WGAA implementation.

2. Delivery of IS changes to the transport model/DCLF and to the TNUoS charge calculation system can be implemented only by November 2009.

8.2 The Working Group proposes CAP165 should be implemented on 1st April 2010, subject to receiving an Authority decision by the end of September 2009, and IS changes proceeding as discussed below. If these dates are not met, or a decision or notification to start works in advance of a decision is not received, the implementation date will be delayed by the same length of time.

8.3 If National Grid IS work does not proceed as discussed in section 8 the implementation date would need to be delayed beyond April 2010.

**Mid-Year Implementation:**

8.4 The CAP165 proposed implementation dates are all tied to 1st April in a given year to align with the other Transmission Access amendments that are being progressed alongside CAP165. CAP165 in isolation could however be implemented mid-year as the original and all of the Working Group Alternative Amendments retain TNUoS tariffs as the basis of the transmission charging arrangements. Therefore a mid-year implementation would see the transmission charges in that year remain the same pre- and post- any implementation of CAP165.

8.5 The security arrangements for individual pre-commissioning Users may change (although the option for existing Users to retain pre-CAP165 securities is allowed which may mitigate the impact in this area) through CAP165. These Users receive six-monthly revised updates of security requirements in April and October of each year and so an implementation date aligned to the 1st October or 1st April in each year would see the workload connected with revising securities minimised.

**Transition to new TEC and LCN values**

8.6 Implementation of any of the original or alternative amendments will require changes to the Bilateral Agreements and the Construction Agreements. The main change is associated with implementing LCN and the revised TEC arrangements in existing Bilateral Agreements and Construction Agreements for generators under construction. It is estimated that this will take 6 months. Therefore an Authority decision would be required no later than September 2009 to implement by April 2010 in relation to LCN.

8.7 Working Groups 1, 2 and 3 discussed the transition and enduring arrangements for LCN. It was considered that if during the transition a generator requested an LCN higher than existing TEC (up to a maximum CEC) then there should be a charge to assess this request, if additional works are required this would be treated as a modification application.

**Transition Process for CAP165 Original, WGAA1 and WGAA2**

8.8 The envisaged transitional process for LCN and TEC for CAP165 original amendment, WGAA1 and WGAA2 is as follows:

8.9 All existing users will have the following values for LCN and TEC inserted into their existing Agreements as default values in the event that the User does not contact National Grid with variations to the default parameters within 1 month of the date of implementation for CAP165:

- For LCN the LCN MW level will be equal to the existing TEC MW level within the Users Bilateral Agreement effective on the date of any Authority approval of CAP165 (the "CAP165 Decision Date"). The LCN effective date will be equal to the existing TEC effective date contained within the User's Bilateral Agreement effective on the CAP165 Decision Date. The TEC level and TEC Effective date will remain unchanged by any implementation of CAP165.

- In terms of the TEC booking period all Users (both pre- and post-commissioning) will default to a TEC booking period of 8 full financial years from the CAP165 implementation date (which will be more than 8 calendar years should the CAP165 implementation date not be on the 1st April in any year).

8.10 Should a User wish to vary the terms of its new Bilateral Agreement from the above default values then it shall adopt one of two options.

**Option 1: Variations by Notification**

8.11 Both pre- and post- commissioning generators may apply to extend their TEC booking period from the default and must notify National that they intend to do so within 1 month of the CAP165 Decision Date.

8.12 Post-Commissioning generators may also apply to reduce their TEC booking period from the default 8 years again by notifying National Grid that they wish to do so within 1 month of the CAP165 Decision Date.

**Option 2: Variations via Modification Application**

8.13 Pre-Commissioning Users who wish to advance their LCN or TEC Effective Dates to a date before their existing TEC Effective Date within their signed

Bilateral Agreement at the CAP165 Decision Date shall apply to do so via a Modification Application. National Grid shall make a Modification Offer to such User in response to such Application in accordance with the existing CUSC rules. In the event that the Modification Offer that results has not been signed prior to the CAP165 Implementation Date the Users Bilateral Agreement will reflect the default TEC and LCN variables (subject to any notified changes under option 1) from the CAP165 Implementation Date until and if such Modification Offer is signed.

8.14 Pre- and Post-Commissioning Users may apply to increase their LCN MW level from the default value or to increase their TEC MW value and again this must be done via Modification Application. National Grid shall make a Modification Offer to such User in response to such Application in accordance with the existing CUSC rules. In the event that the Modification Offer that results has not been signed prior to the CAP165 Implementation Date the Users Bilateral Agreement will reflect the default TEC and LCN variables (subject to any notified changes under option 1) from the CAP165 Implementation Date until and if such Modification Offer is signed.

**Transition Process for WGAA3, WGAA4, WGAA5, WGAA6 and WGAA7**

8.15 WGAA3, WGAA4, WGAA5, WGAA6 and WGAA7 differ from the CAP165 original, WGAA1and WGAA2 as they do not enshrine within them the concept of a finite temporally defined access right, but rather the concept of an enduring right with associated notice period.

8.16 The transitional processes for these Working Group Alternatives differ slightly than those detailed above for the CAP165 Original, WGAA1 and WGAA2 in one key respect namely that there is no need for a default finite access period or therefore any arrangements to allow Users to amend this.

8.17 One caveat to this is that if a User wishes to give notice of a TEC reduction then the relevant User will need to notify National Grid within one month of any CAP165 Decision Date. During the transition period ***only*** existing Users may give notice periods less than the absolute requirements of the particular notice period codified within the CUSC, provided they are still in an integer number of years. For instance in WGAA3 which has a codified notice period of 4 years a transiting existing User may give either 1, 2, 3 or 4 years notice that it wishes to rescind its long term entry capacity rights.

8.18 In all other respects including the alignment of LCN MW values to existing TEC MW values and the arrangements to amend such values via Modification Application if required, the transition amendments noted above for the CAP165 Original Amendment, WGAA1 and WGAA2 also apply to WGAA3, WGAA4, WGAA5, WGAA6 and WGAA7.

**Transition of Securities**

8.19 As part of the CAP165 arrangements Users who have a signed Bilateral Agreement on the CAP165 Decision Date may make a decision to stay on their existing security arrangements or to change to the security arrangements introduced by CAP165. This ability applies across all the variants under CAP165, i.e. the original amendment and each of the Working Group Alternative Amendments.

8.20 The default arrangement will be that an existing User retains its existing securities unless it notifies National Grid that it intends to switch to the

CAP165 security arrangements. Should an existing User wish to transfer to the CAP165 security arrangements then it must notify National Grid that it wishes to do so within 1 month of the CAP165 Decision Date. National Grid will then inform the User of its revised security requirement 75 days prior to the date on which CAP165 is implemented.

8.21 The User must then ensure that it has these securities in place at least 45 days prior to the date on which CAP165 is implemented. National Grid shall refund the securities held under the arrangements in force immediately prior to any implementation of CAP165 as soon as reasonably practicable following the CAP165 implementation date.

## 9.0 IMPACT ON THE CUSC

9.1 The impact on the CUSC if CAP165 or any of its alternatives were implemented would include, but not be limited to, changes to Sections 2 (Connection), 3 (Use of System), 6 (General Provisions) and 9 (Interconnectors). There would also be consequential changes required to Section 11 (Interpretation and Definitions), and potentially to the CUSC Schedules and Exhibits.

## 10.0 IMPACT ON INDUSTRY DOCUMENTS

**Impact on Core Industry Documents**

10.1 No impact on Core Industry Documentation has been identified if CAP165 or any of its alternatives are implemented, but the Working Group requests views on this issue.

**Impact on other Industry Documents**

10.2 Related modifications to the Use of System Charging Methodology have been proposed to cost reflectively charge local infrastructure and to remove the residual element of the entry (generation) TNUoS capacity charge.

10.3 Changes to the System Operator – Transmission Owner Code (STC) would be required in order that generators' long-term transmission access bookings (and the expiry of such rights) are taken account of by Transmission Owners when planning to accommodate additional transmission capacity requests. Additional STC changes may be required to "back-off" in Scotland any other changes to National Grid's User facing obligations, and the STC Committee has already begun to consider the potential impact of CAP165 on the STC.

10.4 If CAP165 or any of its alternatives were to be approved changes to the SQSS may be appropriate. The GBSQSS Review Group has embarked on a major review of the GBSQSS, which will include consideration of this issue.

10.5 There will potentially be some impact on the charging methodology. Whilst CAP165 or its alternatives are not reliant on the introduction of fixed charges Users making a long term commitment could find the option to fix their charges for the duration of their booking favourable. This will be consulted upon under the charging governance.

# 11.0 INDUSTRY VIEWS AND REPRESENTATIONS

## 11.1 Responses to the Working Group Consultation

11.1.1 The following table provides an overview of the representations received. Copies of the representations are contained in Working Group Report Volume 2.

| Reference | Company | Supportive |
|---|---|---|
| CAP165-WGC-01 | Association of Electricity Producers | No |
| CAP165-WGC-02 | British Energy | No |
| CAP165-WGC-03 | British Wind Energy Association | Does not support WGAA3. |
| CAP165-WGC-04 | Centrica | No |
| CAP165-WGC-05 | DONG Walney UK | No comment |
| CAP165-WGC-06 | Drax Power | No |
| CAP165-WGC-07 | EdF Energy | No |
| CAP165-WGC-08 | EON UK | Supportive of WGAA3 |
| CAP165-WGC-09 | ESB International | Yes |
| CAP165-WGC-10 | Fairwind (Orkney) Ltd | Yes |
| CAP165-WGC-11 | First Hydro Company | No |
| CAP165-WGC-12 | GDF SUEZ | No |
| CAP165-WGC-13 | Immingham CHP LLP | No |
| CAP165-WGC-14 | Magnox North | No |
| CAP165-WGC-15 | Renewable Energy Association | No |
| CAP165-WGC-16 | RWE npower | Supportive of WGAA2 |
| CAP165-WGC-17 | ScottishPower Energy Wholesale | No |
| CAP165-WGC-18 | Scottish Renewables | Does not support WGAA3 |
| CAP165-WGC-19 | Scottish and Southern Energy | No |
| CAP165-WGC-20 | Welsh Power | No |
| CAP165-WGC-21 | Wind Energy | No Comment |

## 11.2 Responses to The Company Consultation

11.2.1 The following table provides an overview of the representations received. Copies of the representations are contained in Amendment Report Volume 2.

| Reference | Company | Comments |
|---|---|---|
| CAP165-CR-01 | AEP | Concern about the timescales and the cost benefit analysis. Remain unconvinced that it is within the scope of these amendments to unravel bilateral agreements and remove access rights. Concerned that the financial impact of power stations being less able to optimise their closure decisions would have a greater impact on the cost of operation and the security of supply than the impact of making the planning of the system easier. |
| CAP165-CR-02 | British Energy | Continue to believe that they have enduring transmission access rights. Concerned over the lack of robust cost-benefit analysis for CAP165 and its alternatives. Does not support any of the options presented. Believes CAP165 will lead to generators hoarding access rights. Believes that CAP165 would introduce additional unmanageable risks for generators and that this uncertainty over access rights will lead to a risk premium being added to the wholesale price of electricity, driving up overall costs. |
| CAP165-CR-03 | BWEA | Refers to responses given to previous consultations on CAP165. Position is unchanged from those. |
| CAP165-CR-04 | Drax | Neither the original nor any of the alternatives would release more entry capacity than current baseline. Amendment introduces substantial risks to the generator. Believes a combination of connect and manage with CAP165 WGAA3 would provide a more robust solution. |
| CAP165-CR-05 | EON UK | Comments from previous consultations still valid, more detail in those. Believes that information on the length of the generators access booking can only be effectively utilised in lead times consistent with those for transmission investment. Any lead time greater than this does not provide useful information. Does not therefore support WGAA1, WGAA2 or WGAA5. Believes that WGAA7 provides the best balance between generators and transmission companies' requirements. |
| CAP165-CR-06 | First Hydro | Supports WGAA5. |

| Reference | Company | Comments |
|---|---|---|
| CAP165-CR-07 | Immingham LLP | Views remain unchanged from earlier responses. Believe that they have evergreen rights that National Grid is not able to remove without legislation or only with their agreement and suitable compensation. Believes insufficient time has been given to consider the changes and that there is a lack of robust cost-benefit analysis. Strong opposition to CAP165. Believes that obvious alternatives such as incentivising the release of unused TEC through an "under-use" charge have not been considered. |
| CAP165-CR-08 | Intergen | Believes that they have evergreen rights and that these may not be removed without the introduction of primary legislation. Sees some benefit in the notion of a rolling commitment period for new generators but believes the 4-year commitment period proposed by WGAA3 is too lengthy. Believes that there is a risk under CAP165 that cash-rich generators may be able to "over-book" capacity resulting in misleading investment signals and the exclusion of smaller players. Believes the timescales and concurrent assessment of all of the TAR proposals has meant that their analysis of the proposals has been hindered. |
| CAP165-CR-09 | Renewable Energy Association | Views on CAP165 and its alternatives unchanged from previous consultation responses. Does not support CAP165 or any alternatives, believes that while CAP165 may offer benefits with regard to transmission system planning this is more than outweighed by the disadvantages it offers in removing the ability of generators to make economic short-notice decisions with regard to their transmission access rights. |
| CAP165-CR-10 | Rio Tinto | Concerned that the proposals may affect their property rights. Unique nature of Rio Tinto Alcan operations justifies different treatment. |
| CAP165-CR-11 | RWE npower | Disappointed with the conclusions reached by National Grid in relation to WGAA2. Whilst there is a risk of under recovery in applying cost reflective final sums, the risk and materiality of any under recovery is substantially lower when compared with the TNUoS based pre-commissioning approaches. |

| Reference | Company | Comments |
|---|---|---|
| CAP165-CR-12 | ScottishPower Energy Wholesale | Does not support any of CAP165 or its alternatives. Continues to believe that their existing "evergreen" rights cannot be changed by a CUSC amendment. Believes CAP165 removes the ability of generators to make optimal economic decisions and therefore leads to reduced efficiency in the electricity market. |
| CAP165-CR-13 | SSE | CAP 165 is not a valid amendment proposal. Believe they have contractual evergreen rights. Disappointed that a cost benefit analysis has not been completed. Concern that permitting implementation expenditure prior to a decision is 'tantamount to fettering the Authority's discretion'. WGAA4 better meets the CUSC objectives compared with the original. Concerned the amendment would increase uncertainty for investors. |
| CAP165-CR-14 | Welsh Power | Does not support modifications. Compared to original supports WGAA4 as a 15 month notice period strikes a better balance between notice for TO and flexibility for generators. Compared to original supports WGAA7 as it strikes a better balance of risk between TO and generator. Ofgem needs to consider how much reinforcement work should be made based on forecasting rather than firm signals. |
| CAP165-CR-15 | ESBI | Supports WGAA7. Believes the rolling 4-year access right will give generators the appropriate signal to relinquish capacity at the most economic and efficient time which would in turn lead to more efficient use of capacity in general and increased amounts of capacity being released. |
| N/A | Centrica | Although no formal response was received by the deadline for responses to the Company Consultation, Centrica has informed National Grid that its position remains unchanged from its previous responses to CAP165. |

## 11.3 Views of Core Industry Document Owners

11.3.1 None Received

## 12.0 COMMENTS ON THE DRAFT AMENDMENT REPORT

National Grid received 3 responses following the publication of the draft Amendment Report. The following table provides an overview of each representation. Copies of the representations are contained in Amendment Report Volume 2.

| Reference | Respondent | Summary of Comments |
|---|---|---|
| CAP165-AR-01 | Barbara Vest (CUSC Panel Member) | Typographical errors in sections containing panel Views. Also noted that she did not vote in favour of any of the options presented by CAP165 |
| CAP165-AR-02 | Dave Wilkerson (CUSC Alternate Member) | Typographical and clarificatory amendments to sections containing Panel Views. |
| CAP165-AR-03 | Garth Graham (CUSC Panel Member) | Typographical and structure of document comments. |

## 13.0 WORKING GROUP VIEW / RECOMMENDATION

13.1 The Working Group believes its Terms of Reference have been completed and that CAP165 has been fully considered. The Working Group recommends to the CUSC Panel that:

- A Consultation Report containing the CAP165 WGAA1, WGAA2, WGAA3, WGCR1, WGCR2, WGCR3 and WGCR5 should proceed to wider Industry Consultation as soon as possible.
- The Working Group Report is accepted by the CUSC Panel and the Working Group is disbanded.

13.2 The Working Group voted on whether they believed the original, the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the current baseline**. The results of the vote are described in the following table:

| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | 3 | 9 | 0 |
| **WGAA1** | 2 | 10 | 0 |
| **WGAA2** | 4 | 8 | 0 |
| **WGAA3** | 6 | 6 | 0 |
| **WGCR1 (WGAA4)** | 6 | 6 | 0 |
| **WGCR2 (WGAA5)** | 5 | 7 | 0 |
| **WGCR3 (WGAA6)** | 6 | 6 | 0 |
| **WGCR4** | 2 | 10 | 0 |
| **WGCR5 (WGAA7)** | 6 | 6 | 0 |
| **WGCR6** | 2 | 7 | 3 |

13.3 The Working Group voted on whether they believed the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the original proposal**. The results of the vote are described in the following table:

| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | - | - | - |
| **WGAA1** | 11 | 1 | 0 |
| **WGAA2** | 6 | 5 | 1 |
| **WGAA3** | 11 | 1 | 0 |
| **WGCR1 (WGAA4)** | 9 | 2 | 1 |
| **WGCR2 (WGAA5)** | 6 | 6 | 0 |
| **WGCR3 (WGAA6)** | 10 | 2 | 0 |
| **WGCR4** | 5 | 6 | 1 |
| **WGCR5 (WGAA7)** | 8 | 4 | 0 |
| **WGCR6** | 3 | 8 | 1 |

13.4 The majority of the Working Group believed WGAA1, WGAA3, WGCR1, WGCR3 and WGCR5 were better than the original. The Chair with the support of the Working Group took forward proposals which had 6 votes in support. This means that WGAA2 and WGCR2 have also been taken forward.

13.5 The Working Group voted on which of the proposals they believe best facilitates the applicable CUSC Objectives. The results of this vote are described in the following table:

| Proposal | Best |
|---|---|
| **Original** | **0** |
| **WGAA1** | **1** |
| **WGAA2** | **2** |
| **WGAA3** | **2** |
| **WGCR1 (WGAA4)** | **3** |
| **WGCR2 (WGAA5)** | **1** |
| **WGCR3 (WGAA6)** | **0** |
| **WGCR5 (WGAA7)** | **3** |

## 14.0 NATIONAL GRID VIEW

14.1 National Grid's view is that all of the proposed alternatives and the CAP165 original amendment would better facilitate the applicable CUSC objectives when compared against the current baseline. This is due in the most part to the fact that all of the options presented would either:

(c) offer a finite right and with it the ability to accurately account for the rescission of long term rights by an existing generator when planning transmission works on the GB Transmission System or;
(d) the fact that the proposed notice periods to be given by existing users to rescind existing transmission access rights (a range from 15 months to 8 years) would be significantly in excess of the current 5 day minimum requirement.

14.2 Other Alternatives also propose an equitable system of liabilities for pre- and post-commissioning generators, again another benefit that would in National Grid's view better facilitate applicable CUSC objective (b).

14.3 National Grid is not generally in favour of the amendments which utilise a Pre Commissioning Liability. While National Grid is generally content to forecast Final Sums liabilities at the time that a connection offer is prepared we are not content with the proposal that if actual liabilities incurred are less than forecast then the difference is refunded to the User whereas if actual liabilities are in excess of forecast that liability is borne by National Grid and thence the industry. This in National Grid's view would mean that in the long term this would either cause a general under-recovery of pre-commissioning liabilities from terminating Users and thus result in a cross subsidy of new users by existing users. Alternatively the proposal would drive National Grid to very conservatively forecast Pre Commissioning Liabilities and thus require new Users to provide greater amounts of pre-commissioning security, which could be perceived as a barrier to entry, frustrating applicable CUSC objective (b).

14.4 National Grid has also stated through the Working Group discussions that a six year signal of the rescission of long-term rights would be required. This is based upon an normal 6-year lead time for the specification, planning and construction of transmission construction works. From a purely transmission perspective then any alternative that does not give a minimum of a 6 year signal will inevitably result in less than the theoretical maximum saving in transmission works being able to be achieved. However National Grid also recognises that there may be financial benefits associated with a shorter notice period for generators although National Grid is unable to quantify this impact and thus judge the overall optimal notice period for the industry as a whole.

14.5 On balance National Grid's favoured option is therefore WGAA1.

## 15.0 AMENDMENTS PANEL RECOMMENDATION

15.1.1 The CUSC Panel voted on whether they believed the original and the Working Group alternatives were better than the current baseline. The results of the vote are described in the following table:

| Proposal | Better | Not better |
|---|---|---|
| **Original** | 0 | 8 |
| **WGAA1** | 1 | 7 |
| **WGAA2** | 1 | 7 |
| **WGAA3** | 3 | 5 |
| **WGAA4** | 6 | 2 |
| **WGAA5** | 1 | 7 |
| **WGAA6** | 6 | 2 |
| **WGAA7** | 5 | 3 |

15.1.2 The majority of the Panel believe WGAA4, WGAA6 and WGAA7 are better than the current baseline. The majority of the Panel do not believe the Original, WGAA1, WGAA2, WGAA3 or WGAA5 are better than the current baseline.

15.1.3 The CUSC Panel voted on which of the proposals they believe best facilitates the applicable CUSC Objectives. The results of this vote is described in the following table:

| Proposal | Best |
|---|---|
| **Original** | 0 |
| **WGAA1** | 1 |
| **WGAA2** | 0 |
| **WGAA3** | 0 |
| **WGAA4** | 5 |
| **WGAA5** | 0 |
| **WGAA6** | 0 |
| **WGAA7** | 2 |

15.1.4 The majority of the Panel believe WGAA4 best facilitates the applicable CUSC objectives

15.1.5 A number of Panel Members expressed concerns about the process that had been followed for the suite of modifications related to the transmission access review. The Panel agreed that a discussion covering these concerns along with lessons learned and consideration of how the conclusions are best communicated to the wider industry will take place at the Panel meeting in February. This will align with the completion of CAP166 and consideration of the interaction between modifications and the associated changes to the Charging Methodologies. The conclusions of this discussion will be forwarded to Ofgem such that they can feed into their assessment of the modifications, and potentially their wider work on Codes Governance.

# ANNEX 1 – WORKING GROUP TERMS OF REFERENCE AND MEMBERSHIP

## Working Group Terms of Reference and Membership

## TERMS OF REFERENCE FOR CAP165-166 WORKING GROUP 'ACCESS WORKING GROUP 2'

### RESPONSIBILITIES

1. The Working Group is responsible for assisting the CUSC Amendments Panel in the evaluation of CUSC Amendment Proposals CAP165 and CAP166 tabled by National Grid at the Amendments Panel meeting on 25th April 2008.

2. The proposals must be evaluated to consider whether each of them better facilitates achievement of the applicable CUSC objectives. These can be summarised as follows:

   (a) the efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence; and

   (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.

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC amendment provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

### SCOPE OF WORK

4. The Working Group must consider the issues raised by the Amendment Proposals and consider if each of the proposals identified better facilitates achievement of the Applicable CUSC Objectives.

5. In addition to the overriding requirement of paragraph 4, the Working Group shall consider and report on the following specific issues for both CAP165 and CAP166:

   - Impact on bilateral agreements (BCA, BEGAs, CONSAG, Offers etc.)
   - Impact on computing systems, central and individual CUSC party
   - Efficiency of investment signals (for generation, transmission and interconnectors)
   - Effect on competition
   - Applicability to embedded generation
   - Impact on industry documents, including SQSS
   - Definitions, including interaction with other codes and methodologies
   - Interaction with proposed Offshore regime
   - A cost benefit analysis, including:
     - Consideration of the cost of carbon
     - Impact on all classifications of users
     - Impact on system operator and transmission owners
   - Impact on maintenance of the reliability, safety and operation of the grid
   - Impact on Security of Supply
   - Ability of CUSC Parties to trade access rights (short and long term) between themselves

5.a For CAP165, the Working Group shall also consider and report on the following specific issues:

- Nature and definition of rights (including whether zonal rights are recorded zonally or nodally)
- Impact on / transition for users with existing rights
- Application process for extension of rights
- Efficient use of capacity and relinquishment / reduction of rights
- Minimum / maximum booking period
- Definition of an appropriate level of financial security
- Consideration of user commitment in negative charging zones
- Equitable treatment of new and existing users
- Calculation of the trigger period for incremental capacity bookings
- Consideration of the appropriate level of user commitment for new users
- The profile of financial security required pre-commissioning
- Interaction with security requirements for local infrastructure
- Transition and retrospective application for new users

5.b For CAP166, the Working Group shall also consider and report on the following specific issues:

- Type of auction
- Process for, and timing of, long-term auctions (including detailed business rules)
- Size and period of capacity block
- Specification of product (including financial or physical in nature, and rights to compensation)
- Period of release, including interaction with re-zoning
- Evaluation of bids for different numbers of years
- Is there the need for a reserve price?
- Consideration of negative reserve prices (if any) and bids
- Long-term Auction restrictions (e.g. would participation eligibility be restricted to those with a local connection or offer for such?)
- Definition of baselines, and governance of baseline definition
- Definition of an appropriate level of financial security
- Impact on users with existing rights
- Treatment of unsold capacity and incremental capacity
- Definition of regulatory test for release of incremental capacity
- Governance of regulatory test for release of incremental capacity
- Definition of release period for incremental capacity
- Application process for new connections
- Transition, including existing commitments for reinforcements
- Implementation - processes and systems required
- Consideration of relevant parallels from the gas experience

5.c This working group shall have a sub group, the CAP161-166 Enabling Sub-group. The Terms of Reference for this sub-group shall be agreed by the Amendments Panel and shall include the consideration of a number of enabling changes, principally:

- Zonal definition of wider transmission access rights
- Zoning criteria and methodology governance
- Definition of local access (intra-zonal access rights)
- Local only applications
- Local access charging and financial security requirements
- Residual charging and credit requirements

6. The Working Group is responsible for the formulation and evaluation of any Working Group Alternative Amendments (WGAAs) arising from Group discussions which would, as compared with the Amendment Proposals, better facilitate achieving the applicable CUSC objectives in relation to the issue or defect identified.

7. The Working Group should become conversant with the definition of Working Group Alternative Amendments which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual Member of the Working Group to put forward a Working Group Alternative Amendment if the Member(s) genuinely believes the Alternative would better facilitate the achievement of the Applicable CUSC Objectives. The extent of the support for the Amendment Proposals or any Working Group Alternative Amendments arising from the Working Group's discussions should be clearly described in the final Working Group Report to the CUSC Amendments Panel.

8. There is an obligation on the Working Group Members to propose the minimum number of Working Group Alternatives where possible.

9. All proposed Working Group Alternatives should include the proposer(s) details within the Final Working Group Report, for the avoidance of doubt this includes Alternative(s) which are proposed by the entire Working Group or subset of members.

10. There is an obligation on the Working Group to undertake a period of Consultation in accordance with CUSC 8.17. The Working Group Consultation period shall be for a period of 4 weeks as determined by the Amendment Panel.

11. Following the Consultation period the Working Group is required to consider all responses including any WG Consultation requests. As appropriate the Working Group will be required to undertake any further analysis and update the Original and/or Working Group Alternatives. All responses including any WG Consultation Requests shall be included within the final report including a summary of the working Groups deliberations and conclusions.

12. The Working Group is to submit their final report to the CUSC Panel Secretary on 17th July 2008 for circulation to Panel Members. The conclusions will be presented to the CUSC Panel meeting on 25th July 2008.

**MEMBERSHIP**

13. It is recommended that the Working Group has the following members:

| | |
|---|---|
| Chair | Hêdd Roberts |
| National Grid | Andrew Truswell |
| Industry Representatives | James Anderson |
| | Graeme Cooper |
| | Stuart Cotten |
| | Sebastian Eyre |
| | Nick Frydas |
| | Garth Graham |
| | Paul Jones |
| | Simon Lord |
| | Cathy McClay |
| | Fiona Navesey |

| | |
|---|---|
| | Bill Reed |
| | Ed Reed |
| | Helen Snodin |
| | Lisa Waters |
| | Barbara Vest |
| Authority Representative | Min Zhu / David Hunt |
| Technical Secretary | Sarah Hall |

NB: Working Group must comprise at least 5 Members (who may be Panel Members)

14. The Chair of the Working Group and the Chair of the CUSC Panel must agree a number that will be quorum for each Working Group meeting. The agreed figure for CAP165 and CAP166 is that at least 5 Working Group members must participate in a meeting for quorum to be met.

15. A vote is to take place by all eligible Working Group members (for the avoidance of doubt, that is (i) the Proposer (National Grid) and (ii) the Industry representatives listed above) on the proposal and each Working Group Alternative, as appropriate, as to whether it better facilitates the CUSC Applicable Objectives and indicate which option is considered the BEST with regard to the CUSC Applicable Objectives. The results from the vote shall be recorded in the Working Group Report.

16. Working Group Members or their appointed alternate is required to attend a minimum of 50% of the Working Group Meetings to be eligible to participate in the Working Group vote.

17. The Technical Secretary to keep an Attendance Record, for the Working Group meetings and to circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the Final Working Report.

18. The membership can be amended from time to time by the CUSC Amendments Panel.

19. If any Working Group Member wishes to nominate an Alternate (to act on their behalf in their absence from meetings) then this should be sent to the Working Group Chair once the Working Group is under way who will confirm (to the Working Group Member) that the Alternate is duly designated. For the avoidance of doubt if the Working Group Chair believes the suggested Alternate does not have sufficient expertise in the issues being considered by the Working Group they will ask the Working Group Member to suggest a more suitable Alternate.

20. Observers may be permitted by the Chair to attend any meeting. It should be noted that the observer (i) will not have a vote and (ii) cannot speak unless asked to do so by the Chair. Any CUSC Party wishing to be an observer should agree with the Working Group Chair advance .The Chair may invite additional industry experts to any meeting as required to ensure efficient and comprehensive coverage of the agenda.

**RELATIONSHIP WITH AMENDMENTS PANEL**

21. The Working Group shall seek the views of the Amendments Panel before taking on any significant amount of work. In this event the Working Group Chairman should contact the CUSC Panel Secretary.

# Sub-Group Terms of Reference and Membership

## TERMS OF REFERENCE FOR SUB GROUP FOR CAP161-166 WORKING GROUPS, 'ACCESS WORKING GROUP 3'

### RESPONSIBILITIES

1. The Sub-Group is responsible for assisting the two Working Groups established by the CUSC Amendments Panel for CAP161-66, which were tabled by National Grid at the Amendments Panel meeting on 25th April 2008.

2. The Sub-Group is established to evaluate the enabling elements of CAP161-166 and must be evaluated to consider whether the enabling elements better facilitate achievement of the applicable CUSC objectives. These can be summarised as follows:

   (a) the efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence; and

   (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.

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC amendment provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

### SCOPE OF WORK

4. The Sub-Group must consider the enabling elements and issues raised by the Amendment Proposals and consider if the proposals identified better facilitate achievement of the Applicable CUSC Objectives.

5. In addition to the overriding requirement of paragraph 4, the Sub-Group shall consider and report to the Working Groups on the appropriateness, or otherwise of the following specific issues:

   - Application process for acquiring long and short-term access products.
   - Implications for moving from nodal access rights to zonal access rights.
   - Consideration of levels of security and credit requirements for commoditised residual generation tariff.
   - Impact on core industry documents.
   - Impact on IT systems.
   - Necessity for an impact assessment from a User perspective.
   - Impact on the transparency in the calculation of TNUoS tariffs and the User's ability to replicate these using the DCLF ICRP model.
   - Consideration of issues associated with SQSS.
   - Linkage with embedded generation.
   - Linkage with offshore transmission.

6. As a Sub-Group of the Working Groups for CAP161-166, the Group will where appropriate, provide input into the formulation and evaluation of any Working Group Alternative Amendments (WGAAs).

7. There is an obligation on the Working Group to undertake a period of Consultation in accordance with CUSC 8.17. The Working Group Consultation period shall be for a period of 4 weeks as determined by the Amendment Panel.

8. Following the Consultation period the Working Group is required to consider all responses including any WG Consultation requests. As appropriate the Working Group will be required to undertake any further analysis and update the Original and/or Working Group Alternatives. All responses including any WG Consultation Requests shall be included within the final report including a summary of the working Groups deliberations and conclusions.

9. The Sub-Group is to submit their final report to the Working Groups and the CUSC Panel Secretary on 17th July 2008 for circulation to Panel Members. The conclusions will be presented to the CUSC Panel meeting on 25 July 2008.

**MEMBERSHIP**

10. It is recommended that the Sub-Group has the following members:

| | |
|---|---|
| Chair | Hêdd Roberts (National Grid) |
| National Grid Representative | Craig Maloney |
| Industry Representatives | Graeme Cooper |
| | Paul Jones |
| | Allan Kelly |
| | David Lewis |
| | Robert Longden |
| | Simon Lord |
| | Frank Prashad |
| | Louise Schmitz |
| | Nigel Scott / Helen Snodin |
| | Dennis Timmins |
| | Dave Wilkerson |
| | Barbara Vest |
| Technical Expert | Beehun Tan/ Qiong Zhou (Jo) |
| Authority Representative | Anthony Mungall |
| Technical Secretary | Tom Ireland (National Grid) |

NB: The Sub-Group must comprise at least 5 Industry Representatives (who may be Panel Members)

11. The Chair of the Sub-Group and the Chair of the CUSC Panel must agree a number that will be quorum for each Sub-Group meeting. The agreed figure is that at least 5 Sub-Group members must participate in a meeting for quorum to be met.

12. The Technical Secretary to keep an Attendance Record, for the Sub-Group meetings and to circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the Final Sub-Group Report. The Chair will circulate the Working Group Report after each meeting.

13. The membership can be amended from time to time by the CUSC Amendments Panel.

## RELATIONSHIP WITH AMENDMENTS PANEL

14. The Sub-Group shall seek the views of the Amendments Panel and Working Groups 1 and 2 before making a significant change to the scope of work. In this event the Sub-Group Chairman should contact the CUSC Panel Secretary.

15. The Working Group shall seek the Amendments Panel advice if a significant issue is raised during the Consultation process which would require a second period of consultation in accordance with 8.17.17.

16. Where the Sub-Group requires instruction, clarification or guidance from the Amendments Panel and Working Groups 1 and 2, particularly in relation to their Scope of Work, the Sub-Group Chairman should contact the CUSC Panel Secretary.

## MEETINGS

17. The Sub-Group shall, unless determined otherwise by the Amendments Panel, develop and adopt its own internal working procedures and provide a copy to the Panel Secretary for each of its enabling elements of the Amendment Proposals.

## REPORTING

18. The Sub-Group Chairman shall prepare a final report to the 25th July 2008 Amendments Panel responding to the matter set out in the Terms of Reference.

19. A draft Sub-Group Report must be circulated to Sub-Group members with not less than five business days given for comments.

20. Any unresolved comments within the Sub-Group must be reflected in the final Sub-Group Report.

21. The Chairman (or another member nominated by him) will present the Sub-Group report to the Amendments Panel as required.

22. An updated risk register will be published and discussed as a standing agenda item at each TCMF.

# ANNEX 2 – WORKING GROUP ATTENDANCE REGISTER

## Working Group 2

| Name | Company | 1<br>14/05/2008 | 2<br>29/05/2008 | 3<br>11/06/2008 | 4<br>24/06/2008 | 5<br>09/07/2008 | 6<br>28/07/2008 | 7<br>07/08/2008 | 8<br>21/08/2008 | 9<br>04/09/2008 | 10<br>11/09/2008 | 11<br>23/09/2008 | 12<br>02/10/2008 | 13<br>06/10/2008 | 14<br>08/10/2008 | 15<br>10/10/2008 | 16<br>15/10/2008 | 17<br>16/10/2008 | 18<br>24/10/2008 | 19<br>04/11/2008 | 20<br>11/11/2008 | 21<br>18/11/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Working Group Members | | | | | | | | | | | | | | | | | | | | | | |
| Hédd Roberts | National Grid | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Andrew Truswell | National Grid | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | Mark Duffield | Mark Duffield | Mark Duffield | Mark Duffield | Mark Duffield | Mark Duffield | Mark Duffield | Mark Duffield |
| Sarah Hall | National Grid | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | ✓ | ✓ | ✓ | ✓ |
| James Anderson | Scottish Power | ✓ | ✓ | ✓ | ✓ | Gerry Hoggan | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | ✓ | ✓ | ✓ | ✓ |
| Stuart Cotten | Drax Power | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | × | × | ✓ |
| Sebastian Eyre | EDF Energy | ✓ | × | ✓ | Stefan Leedham | ✓ | Emma Luckhurst | ✓ | ✓ | Emma Luckhurst | Stefan Leedham | ✓ | × | ✓ | × | Emma Luckhurst | David Scott | David Scott | × | × | × | × |
| Nick Frydas | Merrill Lynch | ✓ | × | × | ✓ | ✓ | ✓ | × | ✓ | × | ✓ | × | × | × | × | × | × | × | × | × | × | × |
| Garth Graham | SSE | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Paul Jones | E.ON UK | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Simon Lord | First Hydro | ✓ | Kevin Dibble | Kevin Dibble | ✓ | ✓ | ✓ | ✓ | Kevin Dibble | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cathy McClay | British Energy | ✓ | ✓ | ✓ | ✓ | ✓ | Louise Schmitz | ✓ | Rob Rome | Louise Schmitz | Louise Schmitz | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ |
| Fiona Navesey | Centrica | ✓ | Dave Wilkerson | ✓ | Dave Wilkerson | ✓ | ✓ | Dave Wilkerson | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | Merel Kolfshoten | × | × | × | Merel Kolfshoten | ✓ |
| Bill Reed | RWE npower | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Edward Reed | Cornwall Energy Associates | ✓ | ✓ | Bob Brown | ✓ | Bob Brown | × | ✓ | × | ✓ | × | × | ✓ | × | × | × | × | × | × | × | Bob Brown | Bob Brown |
| Helen Snodin | Xero Energy | ✓ | Nigel Scott | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | × | × | ✓ | ✓ | ✓ |
| Lisa Waters | Welsh Power | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | × | ✓ | ✓ |
| Barbara Vest | AEP | ✓ | Dennis Gowland | Dennis Gowland | Dennis Gowland | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | Dennis Gowland | ✓ | ✓ | × | × | × | Dennis Gowland | Dennis Gowland | Dennis Gowland | Dennis Gowland |
| Min Zhu | Ofgem | ✓ | ✓ | ✓ | Stuart Cook | ✓ | ✓ | David Hunt | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | David Hunt | × | ✓ | ✓ |
| Alternatives and Observers | | | | | | | | | | | | | | | | | | | | | | |
| Peter Bolitho | E.ON UK | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Bob Brown | Cornwall Energy Associates | × | × | ✓ | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | ✓ |
| Stuart Cook | Ofgem | × | × | × | ✓ | ✓ | ✓ | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × |
| Kevin Dibble | First Hydro | × | ✓ | ✓ | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Steve Fisher | National Grid | × | × | × | ✓ | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Dennis Gowland | Fairwind (Orkney) Ltd | × | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | × | × | × | × | ✓ | ✓ | ✓ | ✓ |
| Jerrald Hauber | RWE Innogy | ✓ | ✓ | × | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | × | × | × | ✓ | ✓ | × | × | ✓ | ✓ | × | ✓ |
| Gerry Hoggan | Scottish Power | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Stefan Leedham | EDF Energy | × | × | × | ✓ | ✓ | × | ✓ | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × |
| Emma Luckhurst | EDF Energy | × | × | ✓ | × | × | ✓ | × | × | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | × | × | × | × |
| Nigel Scott | Xero Energy | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Dave Wilkerson | Centrica | × | ✓ | × | ✓ | × | × | ✓ | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × |
| Mike Young | Centrica | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Louise Schmitz | British Energy | × | × | × | × | × | ✓ | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × |
| Tony Dicicco | RWE npower | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| David Hunt | Ofgem | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | ✓ | × | × |
| Chris Stewart | Centrica | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Phil Hicken | BERR | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Rob Rome | British Energy | × | × | × | × | × | × | × | ✓ | × | × | × | × | × | ✓ | ✓ | × | × | × | × | × | × |
| ian lomas | BERR | × | × | × | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × | × |
| Mark Duffield | National Grid | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Angela Quinn | National Grid | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | × | ✓ | × | × | ✓ | ✓ | × | × |
| Elaine Calvert | National Grid | × | × | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | × | × | × | × | × | × |
| Merel Van der Neut Kolfshoten | Centrica | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | × | × | × | ✓ | × |
| David Scott | EDF Energy | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | ✓ | ✓ | × | × | × | × |
| Laura McVean | SSE | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |

Working Group 3

| Date | 12-May | 27-May | 04-Jun | 16-Jun | 29-Jun | 13-Jul | 29-Jul | 13-Aug | 22-Aug | 02-Sep | 12-Sep | 25-Sep | 10-Nov |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Meeting No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Allan Kelly | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | | | |
| Anthony Mungall | 1 | 1 | | 1 | | 1 | | 1 | | | 1 | | 1 |
| Barbara Vest | 1 | | | | 1 | 1 | 1 | 1 | | | 1 | 1 | |
| Craig Maloney | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| Dave Wilkerson | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 |
| Dennis Timmins | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 |
| Frank Prashad | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | |
| Hêdd Roberts | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| Louise Schmitz | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| Helen Snodin (N Scott) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| Paul Jones | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | | 1 |
| Robert Longden | 1 | 1 | | 1 | | 1 | 1 | 1 | 1 | | 1 | | 1 |
| Simon Lord | 1 | | | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 |
| David Lewis | 1 | | | | | | | | | | | | |
| Bee Hun Tan | | | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | |
| Tom Ireland | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 |
| Chris Barrass | 1 | 1 | | 1 | | 1 | 1 | | | | | | |
| Qiong Zhou (Jo) | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | |
| Brian Taylor | | 1 | | | | | | | | | | | |
| Michael Dodd | | | 1 | | 1 | | 1 | | 1 | | | 1 | |
| Sebastian Eyre | | | 1 | | | 1 | | | | | | | |
| Emma Luckhurst | | | 1 | | 1 | 1 | 1 | | | | 1 | 1 | |
| Andrew Rimmer | | | 1 | | | | | | | | | | |
| Dan Jerwood | | | 1 | | | | | | | | | | |
| Stefan Leedham | | | | 1 | | | | | | | | | |
| Stephen Curtis | | | | 1 | 1 | | 1 | 1 | | | 1 | 1 | 1 |
| Garth Graham | | | | | 1 | | | | | | | | |
| Owen Wilkes | | | | | 1 | | | | | | | | |
| David Walker | | | | | | 1 | | | | | | | |
| Stuart Cotten | | | | | | 1 | 1 | 1 | | | | | |
| James Anderson | | | | | | | 1 | | | | | 1 | |
| Stuart Cook | | | | | | 1 | | | | | 1 | | |
| David Scott | | | | | | | | | | | | | 1 |

Cancelled

## ANNEX 3 – AMENDMENT PROPOSAL FORM

| **CUSC Amendment Proposal Form** | **CAP:165** |
|---|---|

**Title of Amendment Proposal:**

Transmission Access – Finite Long-term Entry Rights

**Description of the Proposed Amendment *(mandatory by proposer)*:**

Introduction of temporally defined finite long-term entry access rights, and associated user commitment.

It is proposed that existing generators would nominate the number of (whole financial) years for which they require long-term entry access rights to the GB transmission system. This would be underpinned by user commitment in the form of a liability to pay associated charges and a requirement for financial security to be put in place. This will be developed during the assessment of the proposed amendment, in accordance with the Best Practice Guidelines for Gas and Electricity Network Operator Credit Cover. The commitment would be for any period requested by the user (i.e. there would be no rolling time limit), and rights could be extended by application at any time.

New generators (and any existing generators requesting an increased level of long-term entry access) would be required to book a defined number of years of entry access rights ("the trigger period"), and provide the associated user commitment (which would be approximately equivalent to 50% of the cost of providing the incremental capacity). This would replace the existing "final sums" regime.

The above requirements would apply to access to the wider transmission system. Separate arrangements would be put in place for infrastructure comprising generators' local connections to the wider system, including appropriate user commitment (which may be approximately equivalent to 100% of costs).

It should also be noted that the concurrent proposal to remove the residual element of the entry Transmission Network Use of System (TNUoS) capacity charge in the Use of System Charging Methodology means that the duration of the trigger period would need to be calculated on the basis of this revised charging regime (i.e. it would only be based on the wider locational element of the TNUoS charge). Consideration will additionally need to be given to the security arrangements to be put in place for the residual charge.

It is further proposed that long-term entry access rights be defined on a zonal basis, such that each User can share capacity between its power stations on a real time basis at a 1:1 exchange rate within defined zones.

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

The current entry access arrangements for existing generators do not provide any certainty for National Grid and Transmission Owners, in that such users have a rolling option to renew their rights to access the transmission system on an annual basis. Should they wish to decline this option, they have the ability to give as little as five days' notice. This uncertainty can lead to inefficient investment signals, in that the planning of incremental capacity currently can take little, if any, account of the potential future release of existing capacity. Additionally, existing generators are not required to put in place any financial security, even for the one year's worth of charges they currently incur a liability for.

In contrast, new generators are required to fully secure the costs of any reinforcements required to provide incremental access capacity ahead of commissioning. Whilst giving full user commitment, these arrangements are not explicitly defined in the existing commercial frameworks, and it has been suggested that the level and volatility of final sums are perceived as a barrier to entry.

The proposer believes that both of the above issues would be addressed through the introduction of temporally defined finite long-term entry access rights, with associated user commitment. Existing and new generators would be required to provide equivalent levels of user commitment, ensuring the equitable treatment of the two groups and providing efficient investment signals. In addition, replacement of the current final sums methodology with the booking of a trigger period of years' worth of entry capacity access rights would promote transparency and certainty. This would address the perceived barriers to entry, and would provide more confidence in the firmness of capacity applications.

**Impact on the CUSC *(this should be given where possible)*:**

The impact on the CUSC would include, but may not be limited to, changes to Sections 2 (Connection), 3 (Use of System), 6 (General Provisions) and 9 (Interconnectors). There would also be consequential changes required to Section 11 (Interpretation and Definitions), and potentially to the CUSC Schedules and Exhibits.

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

No impact on Core Industry Documentation has been identified, but it is suggested that this would be reviewed during the assessment of the proposed amendment.

**Impact on Computer Systems and Processes used by CUSC Parties** *(this should be given where possible)*:

CUSC Parties' models of the financial viability of new and existing power stations and interconnectors would need to take into account the revised arrangements.

**Details of any Related Modifications to Other Industry Codes** *(where known)*:

Related modifications to the Use of System Charging Methodology would be proposed to cost reflectively charge local infrastructure; to remove the residual element of the entry (generation) TNUoS capacity charge (and instead recover this through a commodity charge based on £/kWh); and to revise the zoning criteria for generation TNUoS charges. It is proposed that such zones would be set by reference to a zonal definition methodology which would be described in a separate statement (and it is further proposed that a requirement for such a methodology would be contained in National Grid's electricity transmission licence).

Consideration would be given to the wider locational charges (i.e. those remaining after the separation of the local infrastructure and residual charges) to apply over the period for which generator long-term entry access bookings were made, including fixed, and index linked, tariffs. Any changes in this area would also be progressed through a modification to the Use of System Charging Methodology, and would include any mechanisms required to resolve under- or over-recoveries resulting from fixed tariffs.

Changes to the System Operator – Transmission Owner Code (STC) would be required in order that generators' long-term bookings (and the expiry of such rights) are taken account of by Transmission Owners when planning to accommodate additional capacity requests. Additional STC changes may be required to "back-off" in Scotland any other changes to National Grid's User facing obligations.

**Justification for Proposed Amendment with Reference to Applicable CUSC Objectives** *(mandatory by proposer)*:**

The proposed amendment would better facilitate the achievement of Applicable CUSC Objective (a), the efficient discharge by the licensee of the obligations imposed upon it under the Act and by the licence, in that the more efficient investment signals that would result, and the consequentially reduced risk of stranding, would better allow National Grid as the licensee to discharge its obligation under the Act to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

The proposed amendment would also better facilitate the achievement of 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:

- Existing and new generators would be required to provide equivalent levels of user commitment, thereby ensuring the equitable treatment of the two groups;
- Existing capacity could be reallocated with certainty to new entrants as result of the firm bookings of capacity made by existing generators; and
- The enhanced transparency in the commercial frameworks of required user commitments and increased certainty would address the perceived barriers to entry, thereby providing more confidence in the firmness of capacity applications, and increasing competition.

| | |
|---|---|
| **Details of Proposer:** Organisation's Name: | National Grid Electricity Transmission plc |
| Capacity in which the Amendment is being proposed: (i.e. CUSC Party, BSC Party or "energywatch") | CUSC Party |
| **Details of Proposer's Representative:** Name: Organisation: Telephone Number: Email Address: | Andrew Truswell<br>National Grid<br>01926 656369<br>andrew.truswell@uk.ngrid.com |
| **Details of Representative's Alternate:** Name: Organisation: Telephone Number: Email Address: | Duncan Burt<br>National Grid<br>01926 656703<br>duncan.burt@uk.ngrid.com |
| **Attachments (Yes/No):** No<br>**If Yes, Title and No. of pages of each Attachment:** | |

## Notes:

1. 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.

2. 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).

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

## ANNEX 4 – RESULT OF WORKING GROUP VOTE

The Working Group voted on whether they believed the original, the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the current baseline**. The results of the vote are described in the following table:

| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | 3 | 9 | 0 |
| **WGAA1** | 2 | 10 | 0 |
| **WGAA2** | 4 | 8 | 0 |
| **WGAA3** | 6 | 6 | 0 |
| **WGCR1 (WGAA4)** | 6 | 6 | 0 |
| **WGCR2 (WGAA5)** | 5 | 7 | 0 |
| **WGCR3 (WGAA6)** | 6 | 6 | 0 |
| **WGCR4** | 2 | 10 | 0 |
| **WGCR5 (WGAA7)** | 6 | 6 | 0 |
| **WGCR6** | 2 | 7 | 3 |

The Working Group voted on whether they believed the Working Group alternatives and the alternatives developed by the Working Group from the consultation requests were **better than the original proposal**. The results of the vote are described in the following table:

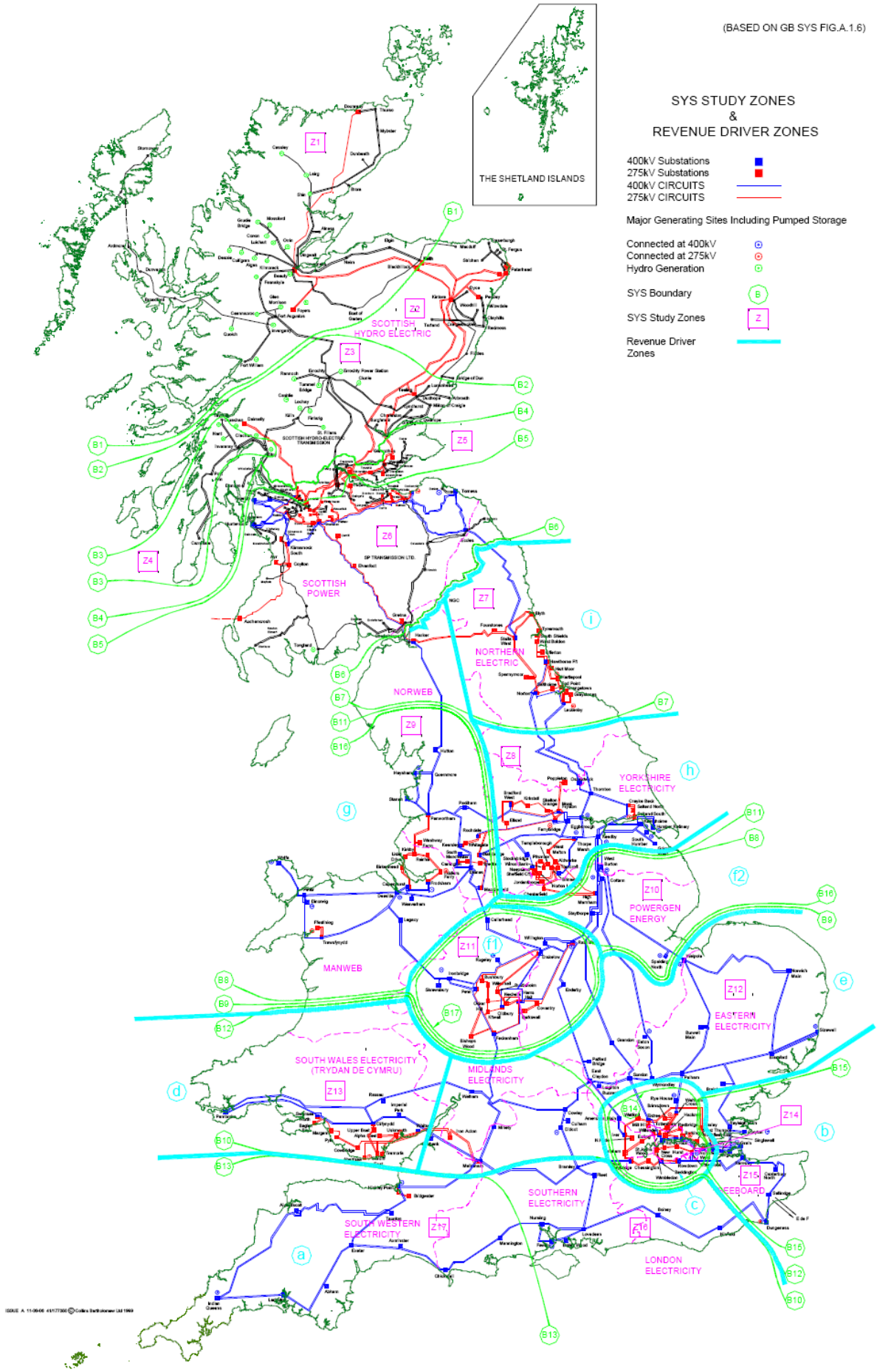
| Proposal | Better | Not better | Abstained |
|---|---|---|---|
| **Original** | - | - | - |
| **WGAA1** | 11 | 1 | 0 |
| **WGAA2** | 6 | 5 | 1 |
| **WGAA3** | 11 | 1 | 0 |
| **WGCR1 (WGAA4)** | 9 | 2 | 1 |
| **WGCR2 (WGAA5)** | 6 | 6 | 0 |
| **WGCR3 (WGAA6)** | 10 | 2 | 0 |
| **WGCR4** | 5 | 6 | 1 |
| **WGCR5 (WGAA7)** | 8 | 4 | 0 |
| **WGCR6** | 3 | 8 | 1 |

1.1 The majority of the Working Group believed WGAA1, WGAA3, WGCR1, WGCR3 and WGCR5 were better than the original. The Chair, with the support of the Working Group, took forward proposals which had 6 votes in support. The means that WGAA2 and WGCR2 have also been taken forward.

1.2 The Working Group voted on which of the proposals they believe best facilitates the applicable CUSC Objectives. The results of this vote is described in the following table:

| Proposal | Best |
|---|---|
| Original | 0 |
| WGAA1 | 1 |
| WGAA2 | 2 |
| WGAA3 | 2 |
| WGCR1 (WGAA4) | 3 |
| WGCR2 (WGAA5) | 1 |
| WGCR3 (WGAA6) | 0 |
| WGCR5 (WGAA7) | 3 |

# ANNEX 5 – ENGLAND AND WALES REVENUE DRIVER ZONES



## ANNEX 6 – MATRIX OF CAP165 WORKING GROUP DEVELOPMENTS OF CONSULTATION REQUESTS AND WGAAs

| ID | Proposer | Nature of Rights | Pre-Commissioning Securities / Liabilities | Post-Commissioning Securities / Liabilities | Other Issues |
|---|---|---|---|---|---|
| WGAA1 | Developed through Working Group Discussions (NGET - Mark Duffield) | Finite right<br>Minimum 8 year booking for new Users<br>Nodal rights | Liabilities match Securities<br>Pre-Trigger Date: Yr 1 = £1/kW, Yr2 = £2/kW, Yr3 onwards £3/kW<br>Post-Trigger Date: 8 × TNUoS scaled pre Completion Date T as follows: T-1 = 100%, T-2 = 75%, T-3 = 50%, T-4 = 25%<br>TNUoS rate applicable is that at time of termination | Liabilities: Pay remainder of TNUoS booking<br>Securities: Zero | May amend pre-commissioning securities / liabilities such that the TNUoS Tariff is fixed at the time of offer signature (and not the TNUoS tariff at time of termination) |
| WGAA2 | Developed through Working Group Discussions (RWE npower – Bill Reed) | As WGAA1 | Securities match Liabilities:<br>Cost Reflective Final Sums fixed at forecast at time of offer signature | As WGAA1 | None |
| WGAA3 | Developed through Working Group Discussions (Drax Power Ltd – Stuart Cotten) | Enduring Right with minimum 4-year notice of reduction in TEC<br>Nodal Rights | As WGAA1, with exception that TNUoS Rate fixed at time of offer signature | Security as WGAA1<br>Liability to pay 4 years of TNUoS | None |
| WGCR1 (WGAA4) | SSE Generation Ltd (Garth Graham) | Enduring Right with minimum 15months notice of reduction in TEC<br>Minimum 4 year booking for new Users | As WGAA3 | Securities as WGAA1<br>Liability to pay 15 months of TNUoS | None |
| WGCR2 (WGAA5) | First Hydro Company (Simon Lord) | As WGAA3 but with an 8-year rolling commitment | As WGAA2 (Cost-Reflective Final Sums) but with caveat that given Completion Date T CRFSL are scaled according to the following: T-1: 25%, T-2: 50%, T-3: 75%, T-4: 100% | As WGAA3 | None |
| WGCR3 WGAA6) | Centrica (Merel Van der Neut Kolfschoten) | As WGAA3 but with a 2 year notice period to reduce TEC | As WGAA3 | As WGAA3 | None |
| WGCR4 | Uskmouth Power & Severn Power (Rebecca Williams) | As WGAA1 | As WGAA1 however securities (and liabilities) will be restricted to the period 7 years prior to the Completion Date T (as in CAP131) | As WGAA1 | May amend pre-commissioning securities / liabilities such that the TNUoS Tariff is fixed at the time of offer signature (and not the TNUoS tariff at time of termination) |
| WGCR5 (WGAA7) | Uskmouth Power & Severn Power (Rebecca Williams) | As WGAA3 | As WGAA3 however securities (and liabilities) will be restricted to the period 7 years prior to the Completion Date T (as in CAP131) | As WGAA3 | None |
| WGAA6 | Fairwind Statkraft (Orkney) Ltd (Dennis Gowland) | As WGAA3 | Pre-Trigger Date securities & Liabilities are unchanged from WGAA1. Post Trigger Date as WGAA1 but vary dependent on whether full planning permission for full TEC has been granted:<br>**No Planning Permission:**<br>Securities = Liabilities and based upon 8×TNUoS scaled according to the following factors: Given a Completion Date of T, T-4 = 100%, T-3 = 75%, T-2 = 50%, T-1 = 25%.<br>**Full Planning Permission**<br>Liabilities as above. Securities equal 8×TNUoS scaled according to the following factors: T-4 = 50%; T-3 = 42%; T-2 = 34%; T-1 = 25%.<br><br>In all cases, TNUoS rate applicable is that at time of termination | As WGAA3 | May amend pre-commissioning securities / liabilities such that the TNUoS Tariff is fixed at the time of offer signature (and not the TNUoS tariff at time of termination) |
| N/A | Uskmouth Power & Severn Power (Rebecca Williams) | All other WGAA Proposals | All other WGAA Proposals | All other WGAA Proposals | As a transitional process, all existing Users would be given the option to retain their current securities / liabilities. This is pending a review of the practical consequences of this on existing classes if user. The intention is that no existing user will need to re-finance as a consequence of CAP165 |

# ANNEX 7 – PRESENTATIONS MADE TO THE WORKING GROUP
# Meeting One – 14th May 2008

## CAP165: Transmission Access – Finite Long-term Entry Rights

*CUSC Panel and TCMF*
*April 2008*

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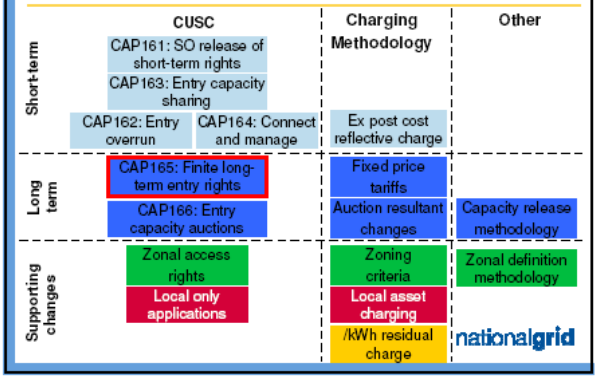
## Overview

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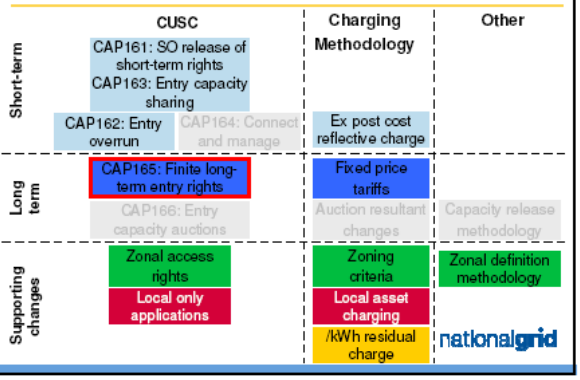
## "Evolutionary Change" Straw Man

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## Defect

- Current access arrangements do not provide certainty for TOs
  - Only 5 days' notice required for TEC decreases
  - May lead to inefficient investment signals
  - Prevents reallocation of existing capacity to new entrants
- No requirement for financial security from existing generators
- In contrast, new generators required to fully secure costs of incremental capacity required
- This provides full user commitment, but:
  - Final Sums arrangements not defined in commercial frameworks
  - Level and volatility perceived as a barrier to entry
  - Inequitable treatment compared to existing generators

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## Proposed Solution

CAP165: Finite long-term entry rights

- Introduction of temporally defined finite long-term entry access rights, and associated user commitment
- Existing generators would nominate the (whole financial) years for which long-term entry access rights required
- Would be underpinned by user commitment, in form of liability to pay charges and requirement for appropriate financial security
- Rights would be extended by application
- Incremental capacity would be triggered by booking a defined number of years' worth of access and providing associated user commitment (approximately 50% of the cost)
- Separate arrangements to be put in place for local infrastructure
- Account to be taken of changes to residual charge (incl security)
- Access rights to be defined on a zonal basis

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## Applicable Objectives and Recommendation

**Objectives**

- CAP165 better facilitates CUSC Applicable Objective (a) as improved investment signals would better allow development of an efficient, co-ordinated and economical transmission system
- CAP165 better facilitates CUSC Applicable Objective (b) as:
  - Equivalent user commitment required from new and existing users
  - Existing capacity could be reallocated to new entrants
  - Enhanced transparency and certainty of commitments required

**Recommendation**

- National Grid recommends that CAP165 should be assessed by a joint CAP165-166 Working Group, for a period of 3 months
- National Grid further recommends that certain elements of CAP165 that are common across CAP161-166 be assessed by a sub-group, for a period of 3 months

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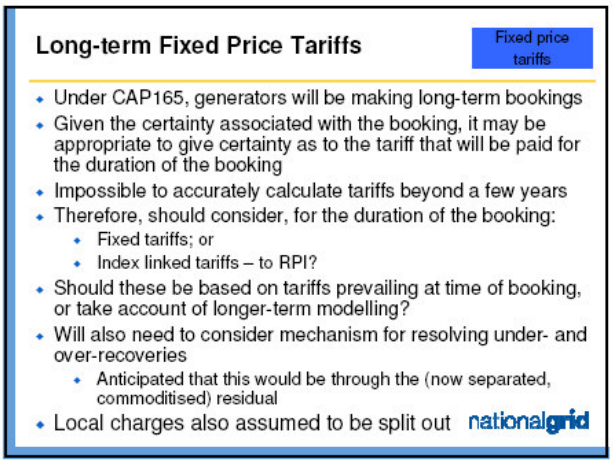
Long-term Fixed Price Tariffs
Fixed price tariffs
Under CAP165, generators will be making long-term bookings
Given the certainty associated with the booking, it may be appropriate to give certainty as to the tariff that will be paid for the duration of the booking
Impossible to accurately calculate tariffs beyond a few years
Therefore, should consider, for the duration of the booking:
Fixed tariffs; or
Index linked tariffs – to RPI?
Should these be based on tariffs prevailing at time of booking, or take account of longer-term modelling?
Will also need to consider mechanism for resolving under- and over-recoveries
Anticipated that this would be through the (now separated, commoditised) residual
Local charges also assumed to be split out
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## Meeting Two – 29th May 2008

### Finite Long-term Entry Rights for Existing Users

*Transmission Access Working Group 2*
*29th May 2008*

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### Agenda

- Nature and definition of rights
  - Implementation of zonal access rights
- Transition / impact on existing users
- Application process for extension of rights
- Trading / relinquishment of rights
- End to end process

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### Nature and definition of rights (1)

- The nature and definition of current entry access rights are listed in black (based on a "Key generic features of access models", Min Zhu, 5th November 2007)
- Proposed changes under CAP165 are highlighted in red
- Type
  - Entry-Exit (Explicit entry, implicit exit)
- Valid duration
  - Annual (with renewal) → No automatic renewal
- Location
  - Nodal → Zonal

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### Nature and definition of rights (2)

- Entitlement
  - Financial
  - Compensation mostly market & value based
- Obligations
  - Use of system charges
  - Notification of closure → Provided by long term booking
- Enforcement
  - Prohibition
- Allocation
  - Invest & connect (improved investment information)
  - First-come-first-served
  - Final sums → Generic commitment

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### Implementation of zonal access rights

- Zonal long term entry access rights could be implemented by:
  - Explicitly defining rights on a zonal basis
    - Each user would have a zonal UoS agreement?
  - Or continuing to define rights nodally, but cashing out overrun zonally
    - i.e. a user's power station could exceed TEC to the extent its other power stations in the zone were under-utilising TEC, without attracting an overrun charge
    - Much simpler to implement, but how does this work without CAP162?
      - May need legal text removing breach of CUSC in these circumstances?
    - Would be easier to transition if zones revised

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### Transition / impact on existing users

- All existing generators with TEC will be offered equivalent long term zonal access rights
- During transition (i.e. just prior to implementation) such generators will be invited to nominate the number of (whole financial) years for which they require long term zonal access rights
  - Should "gaps" be permitted?
  - Should there be a maximum period for which rights can be booked?
- Therefore no rights would be withdrawn from users
- But users would:
  - Be required to nominate when they wish their rights to end
  - Incur a liability for the period of the booking
  - Be required to provide appropriate security
    - This is covered in a separate presentation

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## Application process for extension of rights

- End date of long term entry right would be defined in the Appendix C of the bilateral agreement (e.g. 31/03/xx)
- This could be extended by a Modification Application
- Where no works were required (i.e. the capacity had not been reallocated) an offer would be made within 28 days
- A (relatively small) application fee would be levied
  - Precedence suggests this would be refunded if the offer accepted
- Where works were required, the timetable would be extended to 3 months, and the remainder of the application fee would be levied
- Issues:
  - Should "gaps" be permitted?
  - Should there be a maximum period for which rights can be booked?
    - Is this linked to the stability of zones?

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## Trading / relinquishment of rights

- Rights granted would be tradeable as today
  - CAP068 process for permanent trades
    - But traded capacity would be time limited
  - CAP142 process for temporary trades
- CAP163 would introduce intra-zonal sharing
  - CAP068 and CAP142 become inter-zonal
  - Need to review existing legal text, both:
    - For CAP165; and
    - For a CAP165 and CAP163 combination
- No provision for return of rights to SO
  - Would only be of value to SO if capacity scarce
    - Therefore demand from other users
  - But a termination fee (equal to the remaining liability) may be paid to end the booking prematurely

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## End to end process

- New generator applies for connection by booking entry rights for at least [6] years from the Completion Date
  - How should bookings for more than [6] years be dealt with?
    - Should the generator be required to secure the increment pre-completion?
- Once commissioned, the generator may extend the booking at any time via a Modification Application
  - But capacity is allocated first-come-first-served, so capacity may have already been allocated
- If booked rights are not required, they may be:
  - Traded permanently [inter-zonally]
  - Traded temporarily [inter-zonally]
  - [Shared intra-zonally] [dependent on CAP163]
- Alternatively, a termination fee (equal to the remaining liability) may be paid to end the booking prematurely
- At the end of the booking, capacity will be reallocated to another user (assuming demand for it)

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## Transmission Network Use of System Tariffs for Finite Long-term Entry Rights

*Transmission Access Working Group 2*
*29th May 2008*

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## Agenda

- Background
- Options
- Basis
- Applicability
- Resolving over- and under-recoveries

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## Background

- Under CAP165, generators will be making long-term bookings
- Two drivers to fix generation TNUoS tariffs:
  - Users will be providing certainty through the booking, therefore it may be appropriate to give users certainty in the tariff to be paid
  - Might otherwise be difficult to forecast Value at Risk

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## Options

- No fixing – just pay prevailing charges
- Fix – same charge for duration of booking
- Index linked to:
  - RPI
  - RPI+2 (i.e. prevailing price control term)
  - Expansion Constant
    - i.e. RPI during a price control period with step changes at price control reviews
  - Producer prices

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## Basis

- If fixing a tariff for the duration of the booking, what would the basis of the tariff be?
  - Prevailing tariff at time of booking?
  - A forecast?
    - Over the whole period of the booking?
      - If data was available
    - Over the next [x] years?
      - Condition 5 report "forecasts" for 5 years
    - Trade off between accuracy and transparency
      - But contracted position should become more accurate as a result of finite rights

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## Applicability

- Locational
  - Relatively simple, but only fixing locational means that user exposed to changes in residual
    - Although these would be smeared over all users
- Locational and Residual
  - Genuinely fixed charge, but would be difficult to forecast changes in residual across price control periods
  - If residual used for resolving under- and over-recoveries, significant volatility would result

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## Resolving over- and under-recoveries

- Have largely assumed that over- and under-recoveries would be recovered in the Generation Residual
  - i.e. Would continue to recover 27% of TNUoS revenue from generation
  - Any shortfall or surplus in locational revenues recovered from generators would be balanced by appropriate changes in the generation residual
    - i.e. residual would be difference in generation locational revenue recovered and 27% of MAR
  - Unlikely to over-recover to such an extent that residual would go negative (unlike auctions?)
- Demand and Generation Residual (i.e. revising/removing 27/73 split)
  - i.e would calculate charges as now, then compare generation locational charges received with those prevailing
    - Difference would be applied evenly across demand and generation
    - But generation residual commoditised?

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## Security Requirements for Finite Long-term Entry Bookings

*Transmission Access Working Group 2*
*29th May 2008*

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## Agenda

- Why might security be required?
- Credit concepts
- Current situation for generation
- What is the Value at Risk for a long-term booking?
  - Linkage to pre-commissioning to be discussed next meeting
- Unsecured credit allowance
- Credit tools

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## Why might security be required?

- Current rolling annual nature of TEC may lead to inefficient investment signals and prevents reallocation of existing capacity to new entrants
- CAP165 proposes to address this through user commitment to multi-year bookings
  - An appropriate amount of security would be required to give commitment and cover the risk of payment default
  - Value at Risk arguably increases as a result
  - Alternative would be to pass-through and expose all users to this risk
- If tariffs fixed, also need to ensure that perverse incentives are not created for users to move from a given fixed price tariff to a lower tariff
  - It may be necessary to have a termination fee, with appropriate security cover, that would be called in if the contract were not honoured

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## Credit concepts

- Value at Risk (VaR)
  - If a user were to default, what is the exposure in terms of outstanding charges and liabilities?
- Unsecured credit allowance
  - How much "free" or "user allowed credit" should be extended to the user based on its creditworthiness
- Credit Tools
  - The difference between the VaR and the unsecured credit allowance would need to be secured through the provision of credit tools
    - i.e. this is the amount of security actually lodged

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## Current situation for generation

- Generators do not currently provide security for TNUoS charges
- Security is provided for:
  - BSUoS
  - Termination Amounts for Connection Charges
  - Final Sums
- Provisions for BSUoS security are in CUSC Section 3
  - Based on Ofgem's "Best practice guidelines for gas and electricity network operator credit cover"
- Provisions regarding security for Termination Amounts are in CUSC Section 2
  - Unlimited unsecured credit extended to users with a credit rating of A- (and DNOs)
- Provisions for Final Sums are in the Construction Agreement
  - But based on those for termination amounts

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## What is the Value at Risk for a long-term booking?

- All charges to be paid for the entire period of the booking?
  - But if the tariff not fixed, will need to be forecast
- Until capacity resold?
  - By generator; or
  - By GBSO
    - But how can the value and timing of this be forecast?
- Best Practice Guidelines suggest that the VaR is the difference between the contract value and the value that can be recovered by the GBSO through resale (para 3.31)
- Should the VaR be capped by commitment for additional capacity? (i.e. industry takes 50% of risk)
- Or could be deemed to be the remainder of current year? (i.e. industry takes risk in future years if not resold)

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## Unsecured credit allowance (1)

- "Best practice guidelines" state that the maximum amount of unsecured credit to be extended should be 2% of the Network Operator's RAV
  - This is then scaled based on credit rating
  - Unsecured credit can also be extended based on payment record or an independent credit assessment
- Maximum unsecured credit allowance is £128.5m
- "Best practice guidelines" designed to address suppliers
  - Suppliers have no assets
- Are generators different?
  - Could more credit be extended?
    - But is this already factored in by ratings agencies?
    - Will Ofgem approve something not in line with "Best practice"?

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## Unsecured credit allowance (2)

| Credit rating | Credit allowance as % of maximum | Current value for NGET |
|---|---|---|
| AAA/AA | 100 | £128.5m |
| A | 40 | £51.4m |
| BBB+ | 20 | £25.7m |
| BBB | 19 | £24.4m |
| BBB- | 18 | £23.1m |
| BB+ | 17 | £21.8m |
| BB | 16 | £20.6m |
| BB- | 15 | £19.3m |

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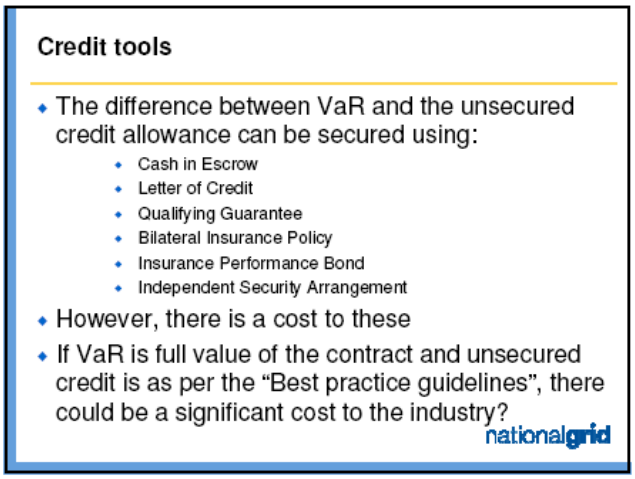
Credit tools
The difference between VaR and the unsecured credit allowance can be secured using:
Cash in Escrow
Letter of Credit
Qualifying Guarantee
Bilateral Insurance Policy
Insurance Performance Bond
Independent Security Arrangement
However, there is a cost to these
If VaR is full value of the contract and unsecured credit is as per the "Best practice guidelines", there could be a significant cost to the industry?
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# Meeting Three – 11th June 2008

## Locational and Residual TNUoS Split

*Transmission Access Working Group 2*
*Meeting 3, 11th June 2008*

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## Locational and Residual TNUoS Split

*Agenda*

- Locational and Residual
  - Revenue recovery
  - Tariffs
- Re-referencing the locational
- Introducing the residual
- Generation : Demand ratio
  - Revenue recovery
  - Tariffs

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## Revenue Recovery

*Residual : Locational*

- The total revenue recovered through the TNUoS tariffs is £1.35bn
- £365mn (27%) of this total is recovered from generation
- The total recovery from the residual section of the tariff from generation is £315mn
- The total recovery from the locational section of the tariff is £50mn
- The locational recovery is the sum of £175mn from positive zones and -£125mn in negative zones

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## Locational and Residual Tariffs

| | Zone | Total Tariff (£/kW) | Locational (£/kW) | Residual (£/kW) |
|---|---|---|---|---|
| 1 | North Scotland | 22.26 | 18.15 | 4.11 |
| 2 | Peterhead | 19.76 | 15.65 | 4.11 |
| 3 | Western Highland & Skye | 20.53 | 16.42 | 4.11 |
| 4 | Central Highlands | 16.74 | 12.63 | 4.11 |
| 5 | Argyll | 15.06 | 10.95 | 4.11 |
| 6 | Stirlingshire | 14.36 | 10.25 | 4.11 |
| 7 | South Scotland | 13.52 | 9.41 | 4.11 |
| 8 | Auchenbrosch | 10.38 | 6.27 | 4.11 |
| 9 | Humber, Lancashire | 6.32 | 2.21 | 4.11 |
| 10 | North East England | 9.95 | 5.84 | 4.11 |
| 11 | Anglesey | 6.83 | 2.72 | 4.11 |
| 12 | Dinorwig | 9.82 | 5.71 | 4.11 |
| 13 | South Yorks & North Wales | 4.42 | 0.31 | 4.11 |
| 14 | Midlands | 2.32 | -1.79 | 4.11 |
| 15 | South Wales & Thames Valley | -2.47 | -6.58 | 4.11 |
| 16 | Central London | -5.66 | -9.77 | 4.11 |
| 17 | South East | 1.22 | -2.89 | 4.11 |
| 18 | Oxon & South Coast | -0.01 | -4.12 | 4.11 |
| 19 | Wessex | -2.57 | -6.68 | 4.11 |
| 20 | Peninsula | -8.53 | -12.63 | 4.11 |

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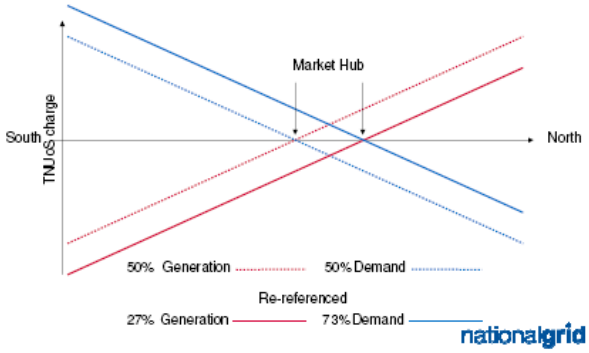
## Re-referencing the Locational Charge

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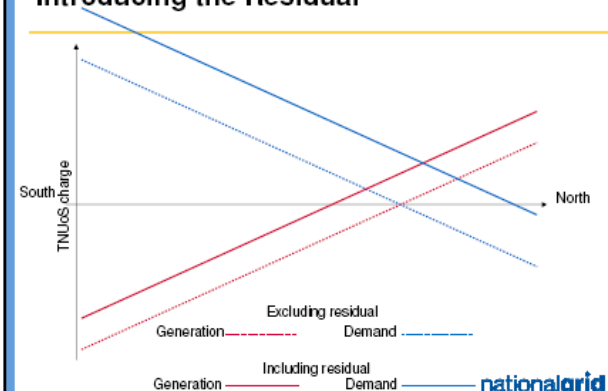
## Introducing the Residual

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## Revenue Recovery

***Generation : Demand Split***

| Generation : Demand | 50:50 | 27:73 |
|---|---|---|
| Total Revenue | £1.35bn | £1.35bn |
| Recovered from generation | £365mn | £365mn |
| - Residual<br>- Locational | £270mn<br>£95mn<br>(£210mn - £115mn) | £315mn<br>£50mn<br>(£175mn - £125mn) |

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## Locational Tariffs

| | Zone | 50:50 Locational (£/kW) | 27:73 Locational (£/kW) |
|---|---|---|---|
| 1 | North Scotland | 18.74 | 18.15 |
| 2 | Peterhead | 16.24 | 15.65 |
| 3 | Western Highland & Skye | 17.02 | 16.42 |
| 4 | Central Highlands | 13.23 | 12.63 |
| 5 | Argyll | 11.55 | 10.95 |
| 6 | Stirlingshire | 10.84 | 10.25 |
| 7 | South Scotland | 10.04 | 9.41 |
| 8 | Auchenhrosch | 6.55 | 6.27 |
| 9 | Humber, Lancashire | 2.83 | 2.21 |
| 10 | North East England | 6.46 | 5.84 |
| 11 | Anglesey | 3.34 | 2.72 |
| 12 | Dinorwig | 6.33 | 5.71 |
| 13 | South Yorks & North Wales | 0.93 | 0.31 |
| 14 | Midlands | -1.17 | -1.79 |
| 15 | South Wales & Thames Valley | -5.56 | -6.58 |
| 16 | Central London | -9.15 | -9.77 |
| 17 | South East | -2.27 | -2.89 |
| 18 | Oxon & South Coast | -3.50 | -4.12 |
| 19 | Wessex | -6.06 | -6.68 |
| 20 | Peninsula | -12.01 | -12.63 |

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## Fixed TNUoS tariffs under a long-term finite entry rights regime

*Transmission Access Working Group 2*
*Meeting 3, 11th June 2008*

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## Fixed TNUoS Tariffs

***Agenda***

- Task and assumptions
- Results
  - Locational
  - Residual
- Conclusions

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## Fixed TNUoS Tariffs

***Task and assumptions***

- Compare actual 2008/09 locational generation TNUoS tariffs with:
  - 2006/07 locational generation TNUoS tariffs
  - 2008/09 locational generation TNUoS tariffs that would have been forecast in December 2005
- Compare commoditised residual generation TNUoS tariff that would have been set for 2008/09 with those that would have resulted in the above two scenarios
  - Assume same generation charging base as actual 2008/09
  - Assume all generators on relevant fixed locational tariff
- Uses 2008/09 generation TNUoS zones
- Based on 73/27 locational revenue split

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## Fixed TNUoS Tariffs

***Results - locational tariffs (1)***

| Zone No. | Zone Name | Actual 2008/09 Locational Generation Tariff (£/kW) | Forecast 2008/9 Locational Generational Tariff (£/kW) as at December 2005 | Difference | Actual 2006/07 Locational Generation Tariff (£/kW) (Restated) | Difference |
|---|---|---|---|---|---|---|
| 1 | North Scotland | 18.15 | 19.31 | 1.16 | 16.97 | -1.19 |
| 2 | Peterhead | 15.65 | 16.22 | 0.58 | 14.84 | -0.81 |
| 3 | Western Highland & Skye | 16.42 | 17.37 | 0.94 | 15.07 | -1.36 |
| 4 | Central Highlands | 12.63 | 14.23 | 1.60 | 11.86 | -0.77 |
| 5 | Argyll | 10.95 | 11.77 | 0.81 | 9.97 | -0.99 |
| 6 | Stirlingshire | 10.25 | 10.24 | 0.05 | 9.45 | -0.80 |
| 7 | South Scotland | 9.41 | 8.70 | -0.72 | 8.55 | -0.87 |
| 8 | Auchencroch | 6.27 | 6.00 | -0.27 | 4.87 | -1.40 |
| 9 | Humber & Lancashire | 2.21 | 1.62 | -0.59 | 2.01 | -0.20 |
| 10 | North East England | 5.84 | 4.66 | -0.05 | 5.29 | -0.51 |
| 11 | Anglesey | 2.72 | 2.51 | -0.21 | 2.73 | 0.01 |
| 12 | Dinorwig | 5.71 | 5.29 | -0.42 | 5.39 | -0.33 |
| 13 | South Yorks & N Wales | 0.31 | -0.20 | -0.51 | 0.28 | -0.03 |
| 14 | Midlands | -1.79 | -2.09 | -0.30 | -1.75 | 0.04 |
| 15 | South Wales & Gloucester | -6.58 | -2.35 | 4.23 | -6.29 | 0.29 |
| 16 | Central London | -9.77 | -9.86 | -0.09 | -9.95 | 07.2 |
| 17 | South East | -2.89 | -2.70 | 0.19 | -2.72 | 0.16 |
| 18 | Oxon & South Coast | -4.12 | -4.61 | -0.49 | -4.07 | 0.05 |
| 19 | Wessex | -6.68 | -6.70 | -0.02 | -5.62 | -1.34 |
| 20 | Peninsula | -12.63 | -9.54 | 3.10 | -12.70 | -0.06 |

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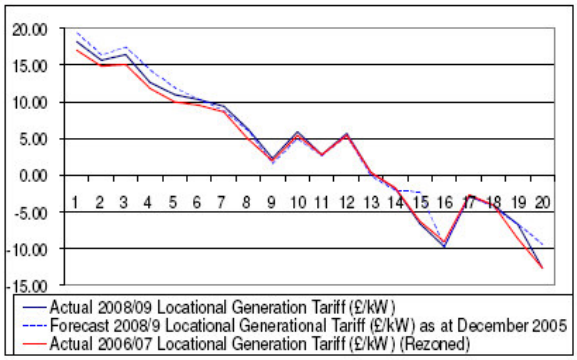
## Fixed TNUoS Tariffs
### *Results - locational tariffs (2)*




## Fixed TNUoS Tariffs
### *Results – residual tariff*

| | Residual Tariff (£/MWh) | Change |
|---|---|---|
| Using Actual 2008/09 Locational Tariffs | 0.978169 | |
| Using Forecast 2008/09 Locational Tariffs | 0.980331 | 0% |
| Using Actual 2006/07 Locational Tariffs | 1.031050 | 5% |

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## Fixed TNUoS Tariffs
### *Results – conclusions*

- Actual 2008/09 locational generation tariffs generally lower than had been forecast because some new generation was not connected as forecast
- However, some was connected so 2008/09 tariffs generally higher than 2006/07
- If all generators had been "locked in" to 2006/07 tariffs, the commoditised residual charge would have been 5% higher in 2008/09 than if prevailing locational charges had been used

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## CAP165 - User commitment for incremental access rights

*Transmission Access Working Group 2*
*Meeting 3, 11th June 2008*

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## User commitment for incremental access rights
### *Agenda*

- User commitment today
- CAP131 proposal
- CAP165 proposal
  - Trigger period
  - User Commitment Amount
  - User commitment in negative zones
  - Implementation and transition
  - Interaction with existing users

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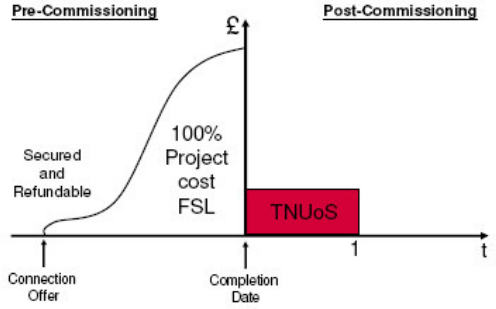
## User Commitment Today
### *Current (non-interim generic) arrangements*

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## User Commitment Today
### *Issue / defect identified under CAP131 (1)*

- Existing Final Sums arrangements have come under pressure due to BETTA transition and incentives for renewable generation
- The industry has given considerable thought to this area
  - National Grid's "Managing the GB Queue" consultation
  - Transmission Price Control Consultations
  - ARODG
- Issues / defects identified
  - arrangements for Final Sums are not transparently defined
  - level and volatility of final sums a barrier to entry
  - difficulties in network planning given volume of applications and uncertainty in power station closures

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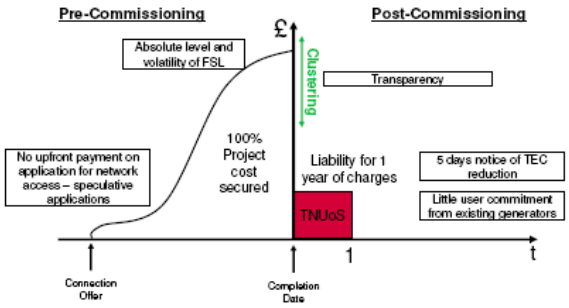
## User Commitment Today
### *Issue / defect identified under CAP131 (2)*

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## CAP131 Proposal
### *Principles for reform – simplify regime*

- Develop a generic regime to apply to all applications for additional transmission access
  - Applicants know what liabilities will be incurred before application (transparency)
  - Liabilities fixed upon signature of construction agreement and/ or modification offer (certainty)
  - Meaningful up-front liability upon signature of construction agreement and/ or modification offer (addresses speculation)
- Trade-off between certainty and cost-reflectivity
  - On project termination there may be instances where a generic liability is greater or less than the project costs incurred

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## CAP131 Proposal
### *Principles for reform – enhance signals*

- Rebalance risk of unnecessary transmission investment from new entrants to consumers
  - Is it appropriate for new users to bear 100% of investment costs?
  - Ofgem have signalled 100% may not be appropriate
  - What is the appropriate level?
    - We have assumed new users should cover 50% of investment costs
    - This lowers barriers to entry in the majority of cases
  - But new users should face a non-refundable termination charge
    - Real commitment
    - Balance of risk with consumer
- Market Information
  - Incentivise closure information provision
    - Avoids unnecessary transmission investment

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## CAP131 Proposal
### *Principles for reform – enshrine arrangements*

- Formally define user commitment arrangements
  - New Section in the CUSC
  - Transparency

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## CAP131 Proposal
### *High-level description (1)*

- Enshrine generic user commitment methodology for new generators and incremental TEC requests
  - use Generation TNUoS tariffs as a proxy
  - in the full year before connection, 6 * TEC * Generation TNUoS would be required to be secured
  - subject to minimum Generation TNUoS tariff of £3/kW
- Incentive to provide earlier TEC reduction information
  - Existing users incentivised to provide 2 years notice of TEC reductions
  - Avoids liability for 2 times the modulus of generation TNUoS for the TEC reduction (subject to a minimum generation TNUoS tariff of £3/kW)

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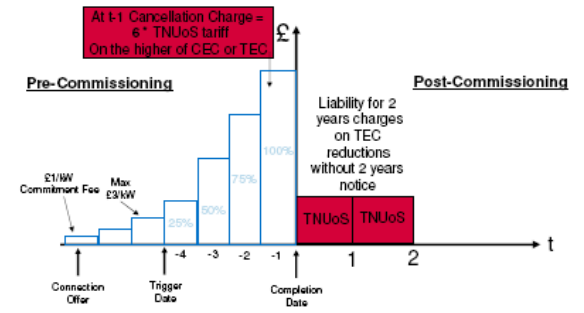
## CAP131 Proposal
### *High-level description (2)*




Generic methodology non-refundable and mandatory

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## CAP131 Proposal
### *Terminology (1)*

- User Commitment Amount
  - The annual (1, 2 or 3) £/kW amount of user commitment prior to the trigger date
- Cancellation Amount
  - The amount of user commitment during construction, as a percentage of six years' worth of TNUoS
- Capacity Reduction Charge
  - The charge levied if a generator reduces its required capacity (to zero or otherwise) prior to completion, based on whichever of the User Commitment Amount or Cancellation Amount is applicable
- User Commitment Charge
  - The charge levied if a generator reduces its required capacity (to zero or otherwise) post completion, without giving two full years' notice

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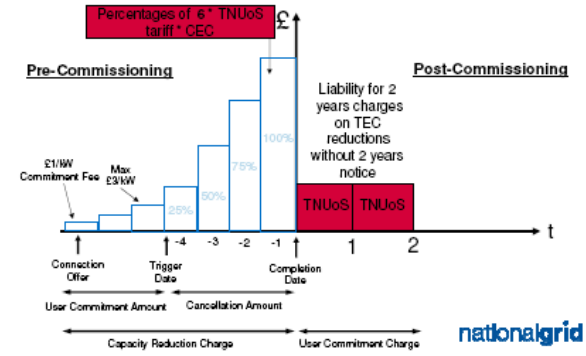
## CAP131 Proposal
### *Terminology (2)*

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## CAP131 Proposal
### *Security requirements*

- Pre-commissioning
  - If the user has a credit rating of at least A-, no security would be required
  - If not, the user would have to secure the User Commitment Amount / Cancellation Amount
- Post-commissioning
  - No security required

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## CAP131 Proposal
### *Advantages*

- Applicable to all applications for new generators and incremental TEC applications
  - liabilities will be known before application (transparency)
  - liabilities fixed upon signature of agreement (certainty)
  - up-front liability upon signature of agreement (speculation)
  - transfers risk from new entrants to consumers (level)
    - to balance this, cancellation charge should be non-refundable
- Application to existing generators
  - the provision of more accurate and earlier closure information will be incentivised
    - Will give better investment signals

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## CAP131 Proposal
### *Justification against applicable objectives*

**Efficient discharge of licence duties**

- Enhanced signals / information facilitates efficient planning of the transmission system

**Facilitate effective competition in generation & supply**

- Lowers barriers to entry
- Reduces speculative applications
- Greater transparency for Users

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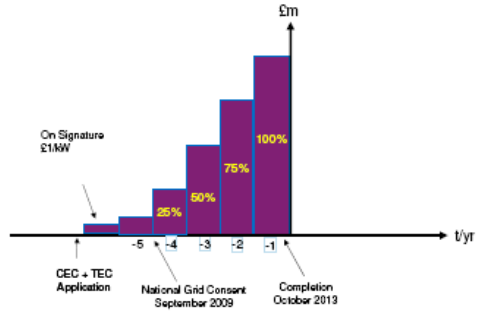
## CAP131 Proposal
### *Example 1*

**£1/kW does not have to reach £3/kW if consents obtained sooner**

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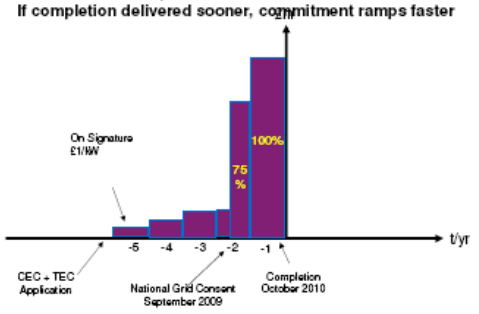
## CAP131 Proposal
### *Example 2*

**User Commitment peaks at £3/kW ahead of NG consents**
**If completion delivered sooner, commitment ramps faster**

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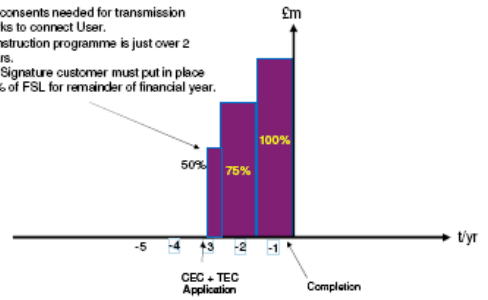
## CAP131 Proposal
### *Example 3*

- No consents needed for transmission works to connect User.
- Construction programme is just over 2 years.
- On Signature customer must put in place 50% of FSL for remainder of financial year.

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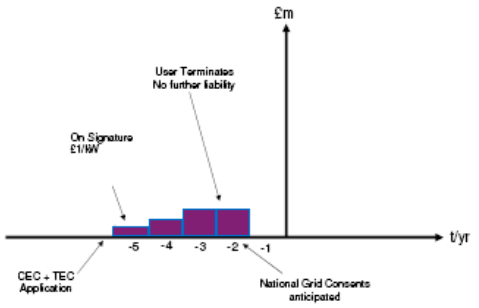
## CAP131 Proposal
### *Example 4 - Termination before TO consents obtained*

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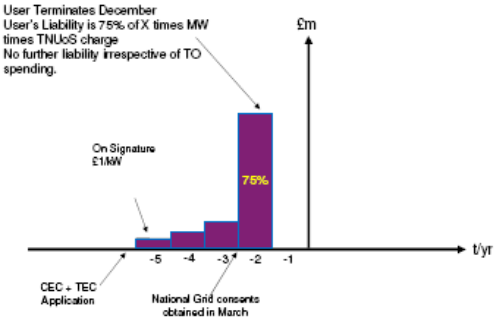
## CAP131 Proposal
### *Example 5 - User terminates after TO consents obtained*

- User Terminates December
- User's Liability is 75% of X times MW times TNUoS charge
- No further liability irrespective of TO spending.

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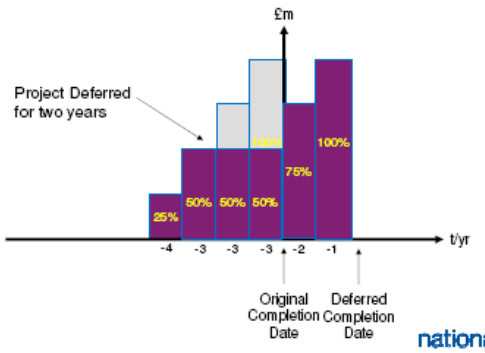
## CAP131 Proposal
### *Example 6 - Level of securities maintained if project deferred*

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## CAP165 Proposal
### *Overview for incremental access rights (1)*

- Concept is based on CAP131
- However, new generators would be booking a defined number of years of entry access rights ("the trigger period")
  - i.e. would be booking 6 years' worth of access to apply from the completion date, rather than just providing security based on 6 years' worth of TNUoS
- Still envisaged that this user commitment would be based on a 50% sharing factor
- Separate arrangements to be put in place for local infrastructure
  - i.e. this is only providing user commitment for wider access rights
- Account to be taken of changes to residual charge
  - Will need to recalculate length of trigger period

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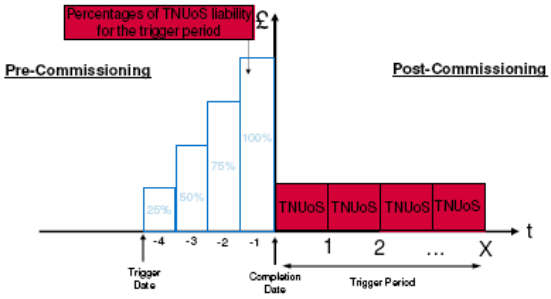
## CAP165 Proposal
### *Overview for incremental access rights (2)*

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## CAP165 Proposal
### *Trigger period liability*

- Trigger period liability will be TEC * TNUoS tariff in each of X years
- Need to determine whether TNUoS tariff is:
  - That prevailing at trigger date
  - Revised annually to that prevailing
    - On an ongoing basis
    - Up to Completion Date
  - Based on forecast future tariffs
    - Would better reflect impact of other developments
- User may choose to book longer than X years
  - At trigger date?
  - At completion date?

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## CAP165 Proposal
### *Is the User Commitment Amount required?*

- In CAP131, the purpose of the User Commitment Amount (the 1, 2 or 3 £/kW prior to the trigger date) was threefold:
  - To reflect the costs of local reinforcements in negative zones
  - To reflect the costs of obtaining consents and undertaking pre-engineering works
  - Minimum meaningful commitment to disincentivise unviable projects
- In CAP165:
  - Local reinforcement will be treated separately
  - Costs of obtaining consents and undertaking pre-engineering works – need to understand:
    - Local / wider split
    - Positive / negative split – see next slides
  - To disincentive unviable projects
    - Could this be done through local?
      - will always be positive

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## CAP165 Proposal
### *User commitment in negative zones (1)*

- Based on existing charges, if the residual removed, all zones from the Midlands south would be negative
- How would user commitment be given in negative zones?
- In CAP131:
  - For incremental capacity, there would be a minimum "floor" of £3/kW
  - For existing capacity, the modulus of the tariff would be used, subject to a minimum of £3/kW
- Use of modulus justified as "biggest incentive for early notification of closures required at extremes of the network"

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## CAP165 Proposal
### *User commitment in negative zones (2)*

- Is a minimum required for incremental capacity in negative zones?
  - Only as a disincentive to unviable projects; or
  - If there were wider works
    - And for which there might be consents or pre-engineering costs?
- However, a requirement for wider works seems inconsistent with a negative tariff
  - Signalling that it would be beneficial to locate here
- Any requirement for wider works is likely to be a result of other new connections
  - Forecast future tariffs might be positive?

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## CAP165 Proposal
### *User commitment in negative zones (3)*

- Is use of modulus justified for existing generation?
  - Closure of plant in very negative zones might lead to works on the system to support demand
    - But addresses a different defect?
    - Shouldn't be disincentivising connections in these areas?
  - In any event, incentive would be on plant not to close – just wouldn't generate for remainder of booking
    - Unless local connection charge higher than costs of terminating local connection and terminating wider rights?
    - Would physical evidence of availability be required?

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## CAP165 Proposal
### *Implementation and transition*

- All pre-commissioning generators will be deemed to have booked entry rights equal to the trigger period
  - Option to book longer, but timing for transition will depend on whether enduring solution is to do this at application or completion
  - Security equal to liability for the trigger period will be required
    - As making a booking for use of system access, seems logical to deal with these in Section 3 of CUSC
      - Would use provisions based on Best Practice Guidelines
    - This may be a significant increase for Scottish transitional users who currently only have to secure intra-Scottish reinforcements
    - If implementation was a 1st April, would seem most logical to issue revised security requirement in January
      - Security would be put in place in February
      - But might want to review enduring processes?

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## CAP165 Proposal
### *Interaction with existing users (1)*

- Under CAP165, both new and existing generators make long term bookings
  - Release of incremental capacity is subject to booking a minimum trigger period
  - If we accept 50% is the "right" risk sharing factor, then, although new generators could book entry rights for longer than the trigger period, would it be necessary for them to secure this?
- Previously, we have discussed security requirements for long term bookings made by existing generators
  - It has been suggested that one year would represent an appropriate amount of security to be lodged, irrespective of the length of the booking
    - Liabilities could be passed through in future years and smeared across all users (generators?)
    - Cost to industry of self insurance might be less than lodging security for lengthy multi-year bookings

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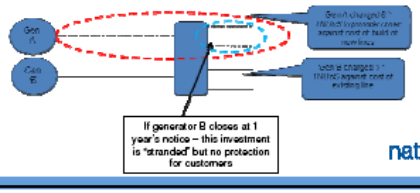
## CAP165 Proposal
### *Interaction with existing users (2)*

- Example below is from Ofgem's CAP131 RIA
- Whilst Generator A provides 6*TNUoS to cover cost of additional capacity, Generator B is liable for one year of TNUoS (and provides no security)
- Impact of Generator B closing would be equivalent to Generator A terminating close to completion
  - But no protection for customers

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## CAP165 Proposal
### *Interaction with existing users (3)*

- Under CAP165:
  - Generator A would book at least the trigger period, and provide security for this
  - Generator B would also have a long term booking
- Is there a justification for Generator B providing less security than Generator A?
- Ofgem's CAP131 RIA speculates that certain existing generators may actually be more risky than some new entrants
  - E.g. "a coal plant opted out of LCPD with limited remaining running hours" compared to "a renewable wind farm with planning permission and financial backing of ROC mechanism"

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## Potential Proxies for Investment Costs

*Transmission Access Working Group 2*
*Meeting 3, 11th June 2008*

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## Potential Proxies for Investment Costs

*Agenda*

- CAP131 Analysis
- Requirement for Further analysis
- New revenue drivers
- Analysis Issues
- Next Steps

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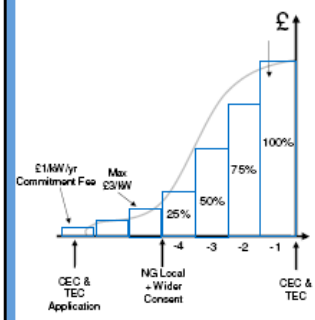
## CAP131 Analysis (1)




- Move from specific FSL to a generic proxy
- Increased predictability and stability
- Six x TNUoS
- Both locational and residual charge included
- Old TPCR revenue drivers to approximate investment

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## CAP131 Analysis (2)


- Risk shared 50:50 so 12 years TNUoS becomes 6 years
- £3/kW minimum charge

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## Further Analysis Required

- The analysis which led to 6 years TNUoS needs to be revisited to take into account the following changes:
  - Separation of the locational charge into local and wider
  - Commoditisation of the residual
  - Updated Revenue Driver zones
  - Updated TNUoS charges

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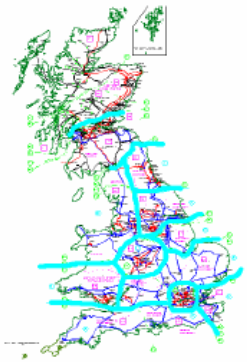
## New Revenue Driver Zones



| | |
|---|---|
| a | South & South West |
| b | Thames Estuary |
| c | London |
| d | South Wales |
| e | East of England and Home Counties |
| f1 | West Midlands |
| f2 | East Midlands |
| g | North Wales and North West |
| h | Yorkshire & Lincolnshire |
| i | North East |
| SPTL | Southern Scotland |
| SHETL | Northern Scotland |

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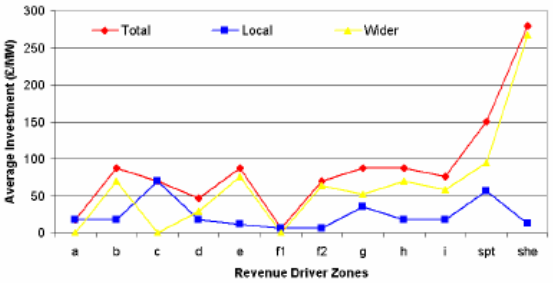
## New Investment Allowances

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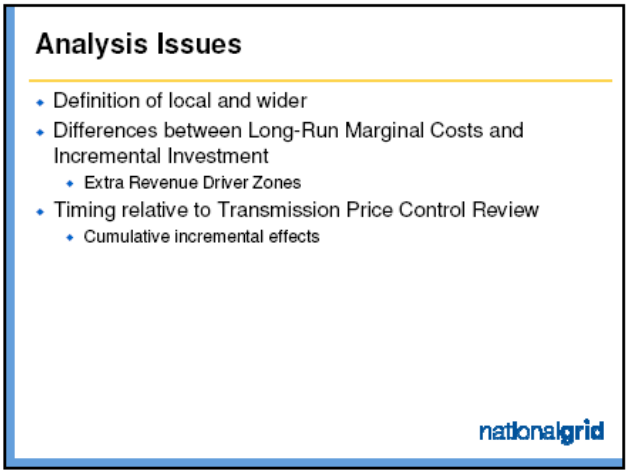
Analysis Issues
Definition of local and wider
Differences between Long-Run Marginal Costs and Incremental Investment
Extra Revenue Driver Zones
Timing relative to Transmission Price Control Review
Cumulative incremental effects
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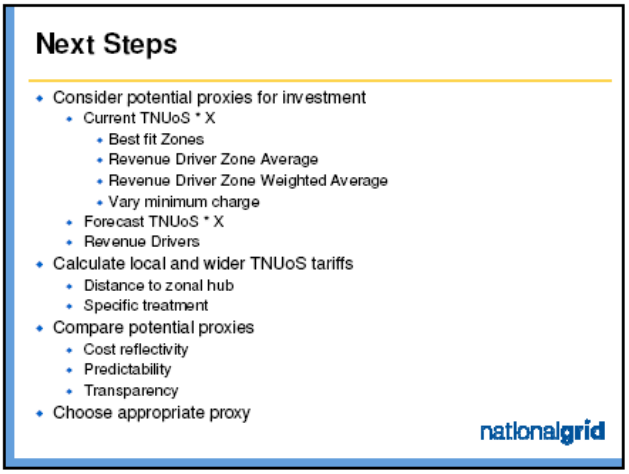
Next Steps
Consider potential proxies for investment
Current TNUoS * X
Best fit Zones
Revenue Driver Zone Average
Revenue Driver Zone Weighted Average
Vary minimum charge
Forecast TNUoS * X
Revenue Drivers
Calculate local and wider TNUoS tariffs
Distance to zonal hub
Specific treatment
Compare potential proxies
Cost reflectivity
Predictability
Transparency
Choose appropriate proxy
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## Meeting Five – 9th July 2008

ofgem Promoting choice and value for all gas and electricity customers

# Transmission Access Review

**Ofgem presentation at TA Working Groups**
**Stuart Cook**
**Director - Transmission**

WG 1 - 8 July 2008
WG2 – 9 July 2008
WG3 – 16 July 2008

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## GB transmission network will need to connect a substantial volume of new generation

***Existing arrangements are not fit for purpose. Significant queue of generators waiting to connect. Transmission investment lags behind generation investment***

- The existing GB transmission system connects **c80GW** of generation to meet around **60-65GW** peak demand
- To meet 2020 targets will require an ***additional* 60GW+** of renewable capacity plus:
  - thermal (fossil) back up plant given intermittency
  - new nuclear generation
  - around 20GW of existing generation is expected to close by 2020 and distributed generation will also have an impact
- Majority of new connections for ***onshore and offshore wind***, but also ***nuclear, gas and clean coal.*** Connections may be remote from the existing network resulting in potential planning difficulties

***Longer term targets create major uncertainties and challenges for Ofgem, HMG and companies . This isn't just a renewables issue. Need for radical reform and innovation.***

2

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## Ofgem's key principles for enduring transmission access arrangements

- **Protecting customers' interest** through reform is vital
  - Long term user commitment from generators is key – avoids transfer of stranding risk to customers and improve the quality of information of future demand for transmission capacity
- Existing generators **do not have "evergreen" rights** to the system (but we are open to "legal" arguments)
- It is important to have **long-term tradable rights**
  - Users can sell rights on a permanent or temporary basis allowing lower carbon technologies to displace existing and reallocation of spare capacity
- **Overselling capacity/connect and manage** not ruled out can be considered, based on proper assessment of costs (eg constraints) and benefits (eg lower carbon emissions)

3

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## The TAR package

| | |
|---|---|
| ***Enduring access arrangements*** | • Amendment proposals on commercial arrangements and charging methodology<br>• Modular approach, capable of delivering a range of different regimes<br>• Possible implementation around April 2010 |

4

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## The TAR package

| | |
|---|---|
| ***Enduring access arrangements*** | • Amendment proposals on commercial arrangements and charging methodology<br>• Modular approach, capable of delivering a range of different regimes<br>• Possible implementation around April 2010 |
| ***Short term measures (a form of "connect & manager")*** | • Improving management of existing "queue" of generators<br>• Measures to release and utilise the full capacity of the system<br>• Scope to connect more generation through limited derogations from security standards? Criteria include: Benefits > Costs.<br>• Concerns about market power? Incumbents wanting to advance generation projects asked to auction existing capacity? |

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## The TAR package

| | |
|---|---|
| ***Enduring access arrangements*** | • Amendment proposals on commercial arrangements and charging methodology<br>• Modular approach, capable of delivering a range of different regimes<br>• Possible implementation around April 2010 |
| ***Short term measures (a form of "connect & manager")*** | • Improving management of existing "queue" of generators<br>• Measures to release and utilise the full capacity of the system<br>• Scope to connect more generation through limited derogations from security standards? Criteria include: Benefits > Costs.<br>• Concerns about market power? Incumbents wanting to advance generation projects asked to auction existing capacity? |
| ***Planning & Incentives*** | • TSOs to publish a major technical study by end of 2008. Brought together through ENSG<br>• Ofgem to develop sharper incentives for TSOs, in particular, new investment incentives for TOs to take some of stranding risk (but with higher reward for timely & efficient investment)<br>• Linked to ongoing review of SO incentives |

6

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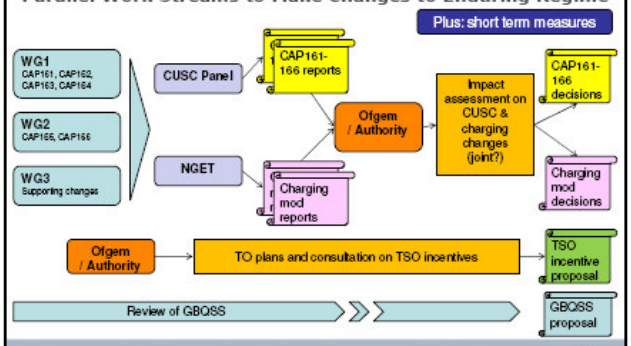
## Parallel Work Streams to Make Changes to Enduring Regime

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## Our expectations (enduring arrangements)

- WGs are expected to:
  - Consider linkages (eg mutual dependency/enhancement/exclusion) between proposals, bearing in mind the over-arching framework to be established
  - Develop, assess and report on evidence (wherever possible, quantitative) for a manageable number of viable options
  - Be mindful of CUSC and other obligations (e.g. prohibition on undue discrimination)
- CUSC Panel is expected to:
  - Consider WG reports. Submit report to the Authority setting out assessment of options and a recommended option for each CUSC amendment proposal
  - Be mindful of CUSC and other obligations (e.g. prohibition on undue discrimination)
- NGET is expected to:
  - Consult on charging options arising from WGs
  - Submit report to the Authority setting out assessment of options and charging modification proposals
- Ofgem/Authority is expected to:
  - Provide an appropriate steer on analysis and direction
  - Conduct Impact Assessment(s) on proposals, leading to decision on changes

***Authority to report on progress to the Secretary of State by end-2008. Government will consider legislation in the event of delay or resistance.***

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## Some initial observations on current topics of debate

- Our starting point: the regime should permit non-physical players to acquire and trade capacity
  - Limiting to physical players will restrict market activity
  - We consider that it works in gas but, would need to be coupled with effective UIOLI, etc
- In general, auctions provide the most effective way of allocating scarce capacity. Happy to consider views about the merits of an auction-based approach for the non-short-term capacity. But, some questions:
  - Need to ensure that the short-term and non-short-term arrangements 'hang together'
  - Alternative approaches (e.g. administered price) may not afford the flexibility, for example, to allow parties to signal both volume and prices
  - We will need to see an informed assessment of the merits of alternative options.
- Credit cover - do we need to distinguish between Value at Risk (VAR) and the risk of party default?
  - Value at risk - will depend on: the extent to which the relevant assets can be used now or in the future by a different party
  - The risk of party default - will depend on the particular circumstances of the party

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## CAP165 Actions from Meeting 3

*Transmission Access Working Group 2*
*Meeting 5, 9th July 2008*

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## CAP165 Analysis

*Agenda*

- Fixed Tariffs
  - Scenarios
  - Fixing the Locational Only
  - Fixing the Total Tariff
- Post-Commissioning Security

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## Fixed Tariff Scenarios

| | 2006/07 Tariffs | | Forecast 2008/09 Tariffs | |
|---|---|---|---|---|
| | Locational | Total | Locational | Total |
| All Fix | £1.03/MWh | Under recovery £61 million | £0.98/MWh | Under recovery £64million |
| All Float | £0.98/MWh | NO under or over recovery £4.11/kW | £0.98/MWh | NO under or over recovery £4.11/kW |
| Mixture | £1.06/MWh | additional £0.31/kW | £1.01/MWh | additional £5.18/kW |

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## Fixing the Locational Tariff Only

- In the majority of zones the 2006/07 tariff is lower than the actual 2008/09 tariff. Fixing at 2006/07 levels decreases amount recovered from the locational tariff so increases the residual tariff.
- Fixing at forecast 2008/09 levels has a minimal effect on the residual because the zones where the forecast tariff is lower than the predicted tariff are cancelled out by some zones with much capacity having slightly higher tariffs.
- Where the generator can choose whether to fix or float the locational tariffs are lower or equal to the 2008/09 tariffs so the amount recovered from the locational is lower so the residual is greater than if everyone floated.

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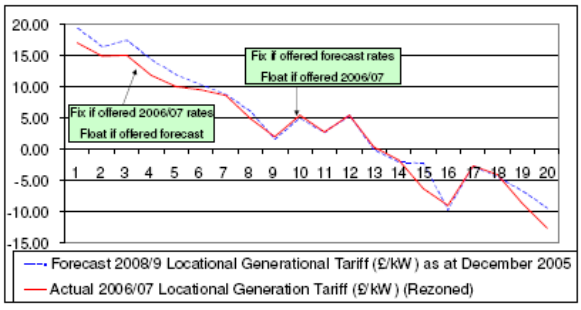
## Fix or float?

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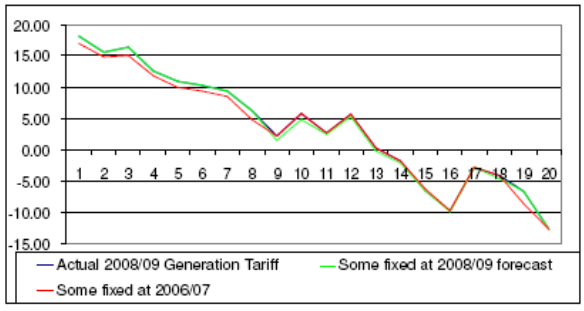
## Mixed Tariffs

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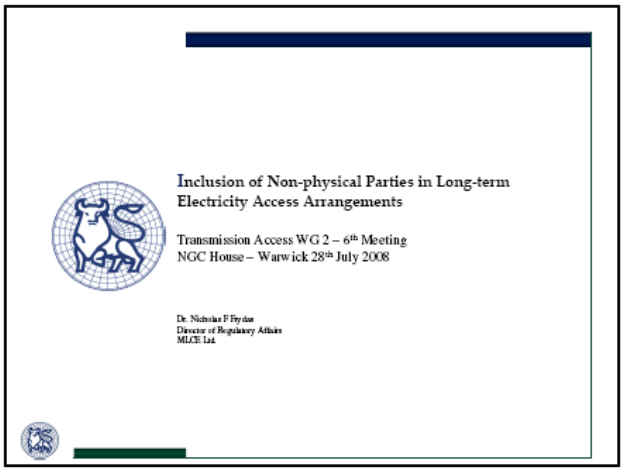
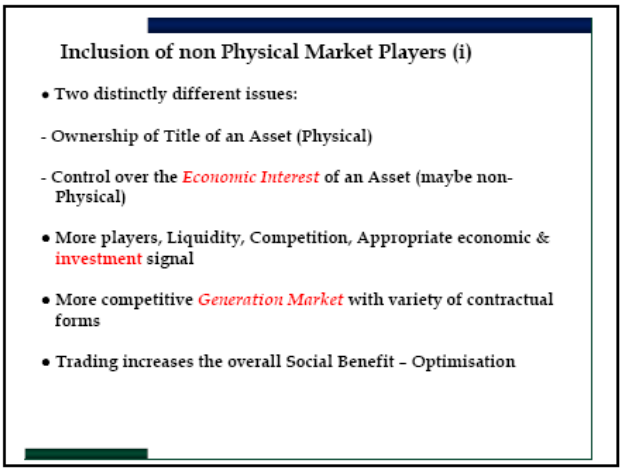
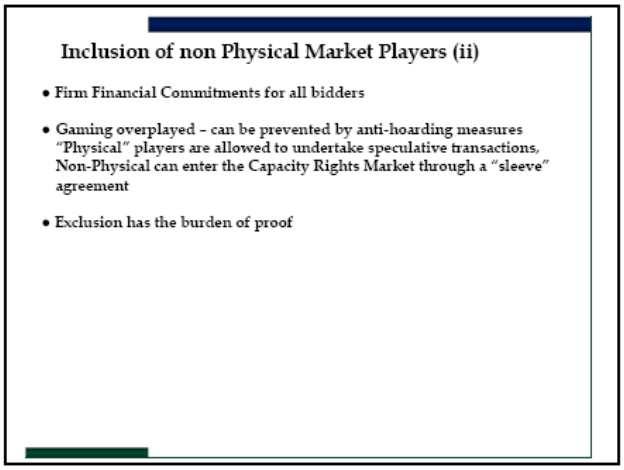
# Meeting Six – 28th July 2008



## CAP165: Charges for Finite Rights Strawman

*Transmission Access Working Group 2*
*Meeting 6, 28th July 2008*

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## Why have a Fixed locational TNUoS tariff

- A user providing a long term signal should have improved tariff certainty
- Fixing the locational tariff would improve the stability and predictability of the charge

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## Fixed Tariffs

- The local and the wider section of the locational part of TNUoS would be fixed using new local charging arrangements
- The residual part of the TNUoS tariffs would float according to the new residual charging arrangements
- Interaction with working group three

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## Cost reflectivity Vs Certainty

- The choice between fixing and floating the charge gives a choice between cost reflectivity and certainty

| | Cost reflective | Certain |
|---|---|---|
| Fixed (at charge at time of connection) | ✗ Only cost reflective in 1st year | ✓ |
| Fixed (at forecast) | ✓ up to 5 Years | ✓ |
| Floating | ✓ ✓ | ✗ |

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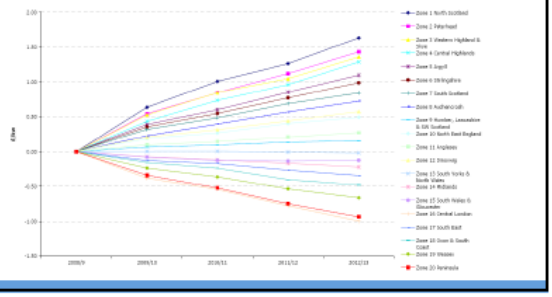
## Retail Price Index

- Currently MAR (between price controls) and the expansion constant are linked to RPI
- Effect of RPI on National Grid five year forecast:



## Retail Price Index

- Advantages
  - Increases locational signal in line with RPI
  - Ignoring the effect of inflation could give an incentive to over book capacity
  - Disadvantage new users
- Disadvantages
  - Difficult to predict

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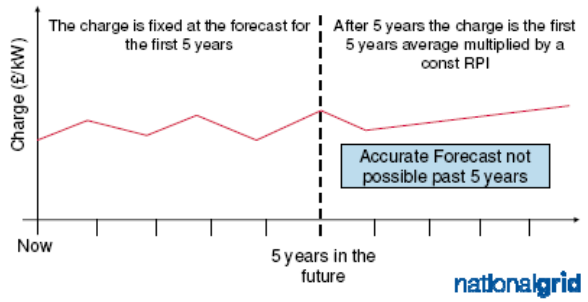
## Strawman

- The locational charges is fixed for the duration of the booking

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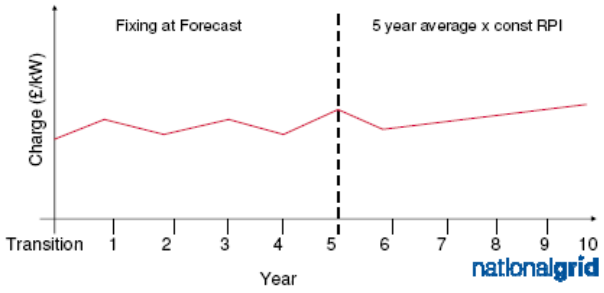
## Timing

- Existing users fix their charges at transition

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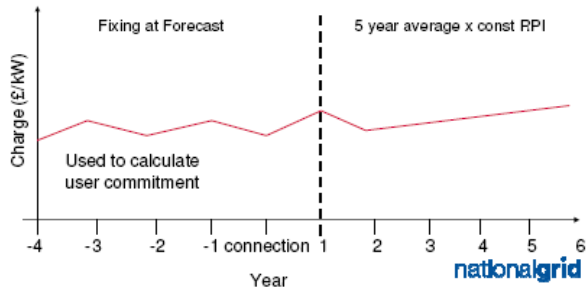
## Timing

- New users fix their charges four years in advance of connection date

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## Fixed Strawman Vs Floating

| Fixed Stawman | Floating |
|---|---|
| • Gives users increased certainty | • Charges are uncertain |
| • Emphasises the locational signal given in the first five years but ignores the future | • Gives locational signal throughout booking |
| • Quite cost reflective for first five years, not very cost reflective after. Creates cross subsidies. | • Cost reflective |
| • Restricts future changes to the charging methodology | • Flexible to future methodology changes |

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# Observations on the Nature of Access Rights

28 July 08

Stuart Cook
Director - Transmission

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## Factors which will guide our thinking if we asked to decide on "access rights"

**Our primary duty** – "to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition".

In no particular order, we will consider factors including the need to:

- Contribute to the achievement of **sustainable development**
- **Security of supply** - secure a diverse and viable long-term energy supply.
- Be sensitive to **expectations** of licence holders
- **Avoid undue discrimination**
- Reflect **legal constraints**

**The move from the MCUSA to CUSC opened the possibility for change**

**CAP043 – Transmission Access (Definition) (2003)**- When parties become CUSC signatories this is on the basis that the CUSC can be subject to change following due process

***We are open to views which are legally robust and consistent with our duties***

2

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## There are circumstances where it is unlikely to be appropriate to change "access rights"

**In the case of future rights ...**

Where parties have made a non-reversible financial commitment, and where a change in rights might:

- Undermine sustainable development
- Undermine security of supply
- Conflict with the expectations of licence holders
- Result in undue discrimination
- Be open to legal challenge

→ **Enduring Access Arrangements**

**We will work to make the enduring access arrangements as "future proof" as possible (recognising that HMG and European policy can change)**

***But, currently, we do not believe these factors apply to so called "evergreen" rights***

3

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## We have long considered rights under the CUSC to be unclear . . .

- **Transmission access and losses under NETA (2001)** - *A further concern is that rights made available to participants to use the transmission system (access rights) are **not well-defined***
- **TPCR4 Third Consultation (2006)** – *we would prefer to move towards a system which...**clearly defines** the access rights that users will receive*
- **CAP142 – Temporary TEC exchanges (2007)** - *We therefore think that it is important to question **whether the rights and obligations associated with existing access products are sufficiently well defined** to allow the development of a well-functioning traded market*
- **TAR Call for Evidence (2007)** - *it is not obvious that the industry codes provide a **clear definition** of the rights associated with TEC and that it may be inappropriate for TEC holders to consider they hold an enduring property right to use the transmission system*

4

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## . . . there are features of the existing rights which suggest they are not "evergreen" . . .

**There is no matching of rights and obligations - financial commitment is not aligned with the longevity of the underlying investment**

- Users are only required to commit to one year of liabilities
- Users can decrease TEC not less than five business days prior to the 30 March (CUSC, §5.6)
- Users are only required to give six months notice before disconnection CUSC (CUSC, §6.3)
- No scope for meaningful trading of future TEC

**What Ofgem has said in the past**

- **Transmission access and losses under NETA (2001)** - *rights to be traded must be defined in a way which ensures that ... reflects the **temporal and spatial nature of transmission constraints***
- **CAP043 – Transmission Access (Definition) (2003)** - *TEC defines a generator's maximum allowed export onto the System **in a financial year***
- **CAP068 – Competing requests for TEC (2004)** - *Ofgem considers that the existing first come first served mechanism for TEC applications and the granting of the same level of access right to a party **in the subsequent year** once TEC is purchased ....*
- **TAR Seminar (2008)** - *Existing generators **do not have "evergreen" rights** to the system*

5

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## . . . and "evergreen rights" do not appear consistent with wider policy interests

- Existing arrangements appear to favour incumbents over new entrants
  - Can act to inhibit new, unrelated generation
  - When times are good incumbents benefit, when bad they can simply hand back rights or mothball to save money
- If rights are enduring, how long do they last?
  - LCPD opted-out plant?
  - Decommissioned nuclear plant?
- Scope for plant to jump the queue by securing an extension

***We are open to views which are legally robust and consistent with our duties***

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## Meeting Seven – 7th August 2008

### CAP165: Proxies for Investment Costs

*Transmission Access Working Group 2*
*Meeting 7, 7th August 2008*

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### Background

- CAP131 used 6 x TNUoS as a proxy to secure investment
- CAP165 requires a proxy to secure wider investment
- WG3's work has split TNUoS into local, wider and residual components

Is X x wider TNUoS a good proxy for wider investment?

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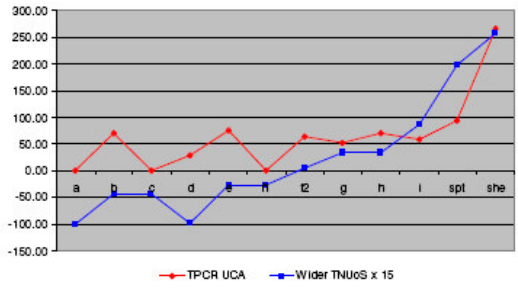
### Wider TNUoS Vs Wider Revenue Drivers




Average: 15 Standard Deviation: 52

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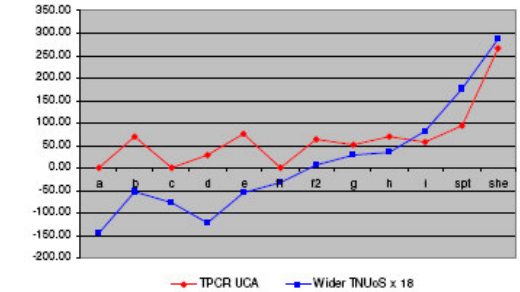
### Wider TNUoS Vs Revenue Drivers

| Revenue Driver Zone | Best Fit TNUoS Zone | Wider Revenue Driver | Wider TNUoS Charge |
|---|---|---|---|
| A | 19 | 0.00 | -6.63 |
| B | 17 | 70.00 | -2.83 |
| C | 17 | 0.00 | -2.83 |
| D | 15 | 29.20 | -6.57 |
| E | 14 | 75.80 | -1.69 |
| F1 | 14 | 0.00 | -1.69 |
| F2 | 13 | 64.10 | 0.39 |
| G | 9 | 52.50 | 2.23 |
| H | 9 | 70.00 | 2.23 |
| I | 10 | 58.30 | 5.79 |
| SPT | 7 | 94.44 | 13.13 |
| SHETL | 1 | 266.90 | 17.87 |

### Re-zoned Wider TNUoS Vs Wider Revenue Drivers




Average: 18 Standard Deviation: 50

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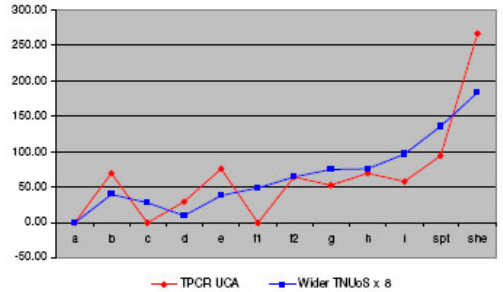
### Re-zeroed Wider TNUoS Vs Wider Revenue Drivers




Average: 8 Standard Deviation: 7

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## TNUoS as a Proxy for Investment

| INVESTMENT | TNUoS |
|---|---|
| Incremental cost | Long run marginal cost |
| Future reinforcement | Current circuits |
| Lumpy | Smooth |
| Gross | Net |
| Absolute | 27:73 |
| Revenue driver<br>local and wider split | Local charging<br>local and wider split |
| Non locational assets included | Locational wider assets only |

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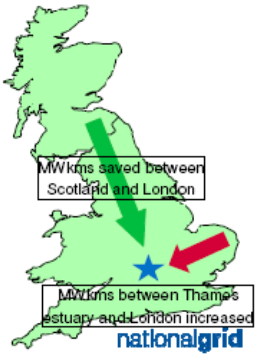
## TNUoS vs UCAs
## Thames estuary example

- Overall impact of +1MW in Thames estuary is fewer MWkm
  - Negative locational TNUoS charge
- But, UCA is £70/kW [capital]
  - Cost of reinforcement between Thames estuary and London
- These reinforcements are at risk of stranding if the generator disappears

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## Conclusion

- Wider TNUoS is not a very good proxy to secure wider investment
- Rezeroing (or adding residual) improves proxy
- Could we use Revenue Drivers instead?
  - Transparency
  - Scotland

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## CAP165 – UCA Based Alternative

*Transmission Access Working Group 2*
*Meeting 7, 7th August 2008*

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## CAP165 – UCA Based Alternative
## *Strawman – pre-commissioning*

- Pre-commissioning termination charge would be based directly on 50% of the relevant UCA
- Would be profiled 25/50/75/100% over 4 years prior to commissioning
- Security would be held based on this
- Users could book any access period to apply after commissioning

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## CAP165 – UCA Based Alternative
## *Strawman – post-commissioning*

- Users can book any access period
- Users are liable for charge for remaining period of booking
- Termination charge is the higher of this liability and a risk based amount derived from the age of plant and period of booking
  - Defined as a proportion of (50% of) the UCA
  - Security would be provided for this
  - Would vary for technology?
- In positive charging zones, risk based amount could be set approximately consistent with liability for remaining booking
- But in negative charging zones with positive UCAs would need a test to determine closure and therefore incur termination charge

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## CAP165 - User commitment amount and process

*Transmission Access Working Group 2*
*Meeting 7, 7th August 2008*

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## CAP165 - User commitment amount and process
### *Agenda*

- User commitment today
- CAP131 proposal
- CAP165 proposal
  - Trigger period
  - User Commitment Amount
  - User commitment in negative zones
  - Implementation and transition
  - Interaction with existing users

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## CAP165 Proposal
### *Overview for incremental access rights (1)*

- Concept is based on CAP131
- However, new generators would be booking a defined number of years of entry access rights
  - i.e. under CAP165 would be booking 8 years' worth of access to apply from the completion date, rather than just providing security based on 6 years' worth of TNUoS as under CAP165
- This user commitment is still based on a 50% sharing factor
- Separate arrangements to be put in place for local infrastructure
  - i.e. this is only providing user commitment for wider access rights
- Now only based on locational element of tariff
  - i.e. excludes residual

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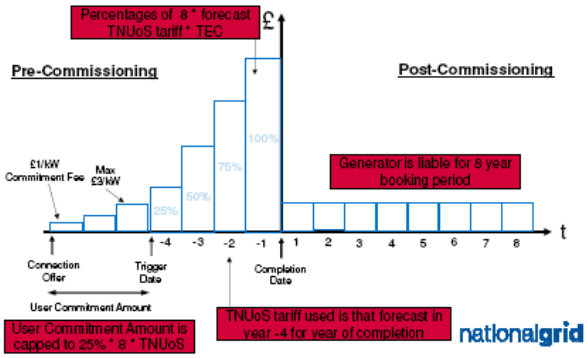
## CAP165 Proposal
### *Overview for incremental access rights (2)*

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## CAP165 Proposal
### *User Commitment Amount*

- In CAP131, the purpose of the User Commitment Amount (the 1, 2 or 3 £/kW prior to the trigger date) was threefold:
  - To reflect the costs of local reinforcements in negative zones
  - To reflect the costs of obtaining consents and undertaking pre-engineering works, such as environmental studies
  - Minimum meaningful commitment to disincentivise unviable projects
- In CAP165, local reinforcement will be treated separately but still a requirement/rationale for the other two drivers

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## CAP165 Proposal
### *Use of forecast tariffs*

- In CAP131, the prevailing tariff at time of offer was used
- This gave certainty, but was not cost reflective
- Imagine a currently negative

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## CAP165 Proposal
### *Process for incremental access rights*

1. Applicant applies for wider access rights.
2. GBSO processes application, liaises with Scottish TOs (if required) and produces offer. Offer defines completion date and (if applicable) the trigger date.
3. Where there is a trigger date

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## CAP165 Proposal
### *User commitment in negative zones (1)*

- Based on existing charges, if the residual removed, all zones from the Midlands south would be negative
- How would user commitment be given in negative zones?
- In CAP131:
  - For incremental capacity, there would be a minimum "floor" of £3/kW
  - For existing capacity, the modulus of the tariff would be used, subject to a minimum of £3/kW
- Use of modulus justified as "biggest incentive for early notification of closures required at extremes of the network"

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## CAP165 Proposal
### *User commitment in negative zones (2)*

- Is a minimum required for incremental capacity in negative zones?
  - Only as a disincentive to unviable projects; or
  - If there were wider works
    - And for which there might be consents or pre-engineering costs?
- However, a requirement for wider works seems inconsistent with a negative tariff
  - Signalling that it would be beneficial to locate here
- Any requirement for wider works is likely to be a result of other new connections
  - Forecast future tariffs might be positive?

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## CAP165 Proposal
### *User commitment in negative zones (3)*

- Is use of modulus justified for existing generation?
  - Closure of plant in very negative zones might lead to works on the system to support demand
    - But addresses a different defect?
    - Shouldn't be disincentivising connections in these areas?
  - In any event, incentive would be on plant not to close – just wouldn't generate for remainder of booking
    - Unless local connection charge higher than costs of terminating local connection and terminating wider rights?
    - Would physical evidence of availability be required?

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## CAP165 Proposal
### *Implementation and transition*

- All pre-commissioning generators will be deemed to have booked entry rights equal to the trigger period
  - Option to book longer, but timing for transition will depend on whether enduring solution is to do this at application or completion
  - Security equal to liability for the trigger period will be required
    - As making a booking for use of system access, seems logical to deal with these in Section 3 of CUSC
      - Would use provisions based on Best Practice Guidelines
    - This may be a significant increase for Scottish transitional users who currently only have to secure intra-Scottish reinforcements
    - If implementation was a 1st April, would seem most logical to issue revised security requirement in January
      - Security would be put in place in February
      - But might want to review enduring processes?

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## CAP165 Proposal
### *Interaction with existing users (1)*

- Under CAP165, both new and existing generators make long term bookings
  - Release of incremental capacity is subject to booking a minimum trigger period
  - If we accept 50% is the "right" risk sharing factor, then, although new generators could book entry rights for longer than the trigger period, would it be necessary for them to secure this?
- Previously, we have discussed security requirements for long term bookings made by existing generators
  - It has been suggested that one year would represent an appropriate amount of security to be lodged, irrespective of the length of the booking
    - Liabilities could be passed through in future years and smeared across all users (generators?)
    - Cost to industry of self insurance might be less than lodging security for lengthy multi-year bookings

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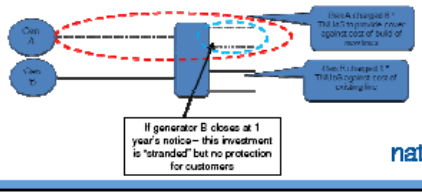
## CAP165 Proposal
### *Interaction with existing users (2)*

- Example below is from Ofgem's CAP131 RIA
- Whilst Generator A provides 6*TNUoS to cover cost of additional capacity, Generator B is liable for one year of TNUoS (and provides no security)
- Impact of Generator B closing would be equivalent to Generator A terminating close to completion
  - But no protection for customers

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## CAP165 Proposal
### *Interaction with existing users (3)*

- Under CAP165:
  - Generator A would book at least the trigger period, and provide security for this
  - Generator B would also have a long term booking
- Is there a justification for Generator B providing less security than Generator A?
- Ofgem's CAP131 RIA speculates that certain existing generators may actually be more risky than some new entrants
  - E.g. "a coal plant opted out of LCPD with limited remaining running hours" compared to "a renewable wind farm with planning permission and financial backing of ROC mechanism"

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## Meeting Eight – 21st August 2008

### CAP165 – UCA Based Alternative

*Transmission Access Working Group 2*
*Meeting 8, 21st August 2008*

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### CAP165 – UCA Based Alternative
*Agenda*

- Rationale for alternative
- Pre-commissioning user commitment
- Post-commissioning user commitment
- Utilisation test
- Post-commissioning security

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### CAP165 – UCA Based Alternative
*Rationale*

- Wider locational TNUoS proved not to be a good proxy for investment costs
  - Use UCAs directly for pre-commissioning user commitment
- Risks associated with post-commissioning generators:
  - System is not used sufficiently that initial transmission investment is deemed to have been efficiently incurred
  - Closure whilst reinforcement for additional generation is being constructed, thereby stranding that investment
- Therefore, post-commissioning user commitment also needs to be reflective of investment costs
- A good example is Thames Estuary
  - Wider locational TNUoS charge is -£2.83/kW
  - UCA is £70/kW

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### CAP165 – UCA Based Alternative
*Pre-commissioning user commitment*

- Pre-commissioning termination charge would be based directly on 50% of the relevant UCA ("termination amount")
- Termination amount would be profiled 25/50/75/100% over 4 years prior to commissioning
- A £1/2/3/kW user commitment amount would apply before this (capped to 25% of the termination amount)
  - Covers pre-engineering and consents costs
  - Disincentivises speculative applications
- Security would be held based on these user commitment and termination amounts
- Users would have to book a minimum 5 years access period to apply after commissioning

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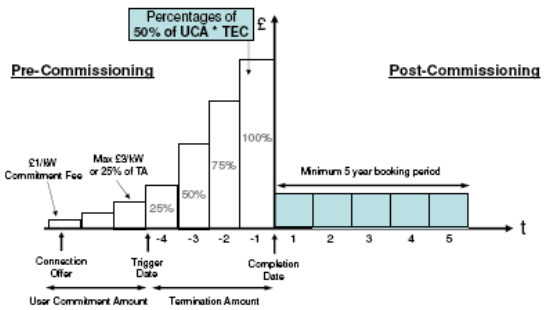
### CAP165 – UCA Based Alternative
*Pre-commissioning user commitment (2)*

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### CAP165 – UCA Based Alternative
*Post-commissioning user commitment*

- Initial 5 year minimum booking period
- Otherwise, any period of booking (in whole financial years)
- Generators liable to pay (or be paid) TNUoS charges for entire booking while using, or deemed to be using, rights
- If they wished to terminate, or were deemed to have terminated, their booking, they would face a termination fee based on the termination amount, profiled as follows:
  - Year -4 (and before) 100%
  - Year -3 75%
  - Year -2 50%
  - Year -1 25%
  - Year 0 0%

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## CAP165 – UCA Based Alternative
### *Post-commissioning user commitment (2)*

- If a generator wished to terminate in the last year of the booking, it would still be liable for TNUoS charges in that year, but would have effectively completed the booking
  - A termination charge would not be incurred on a 1 year booking
- If the generator were to terminate in the previous year, would not face TNUoS charge for final year of booking, but would instead be liable for the termination charge (in this case, 25% of the termination amount)
- If a generator were to terminate with 5 years to run, the termination fee would be the whole termination amount

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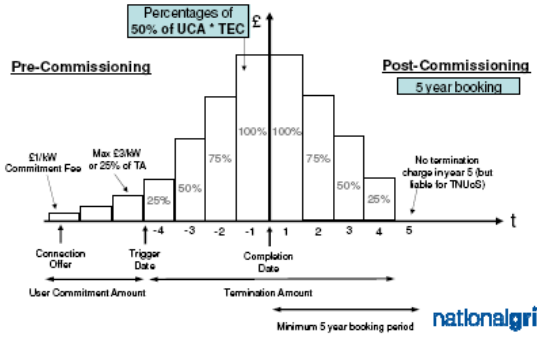
## CAP165 – UCA Based Alternative
### *Post-commissioning user commitment (3)*

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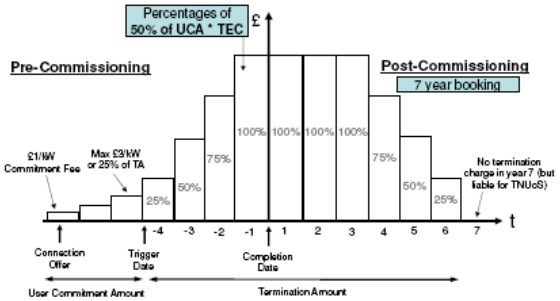
## CAP165 – UCA Based Alternative
### *Post-commissioning user commitment (4)*

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## CAP165 – UCA Based Alternative
### *Post-commissioning commitment - justification*

- Assume investment deemed to be 100% efficiently incurred if used for 5 years (based on price control duration)
- Therefore, minimum booking period of 5 years
  - Termination charge ramps down, reflecting the increasing proportion of the period that the rights have been used
- For longer bookings, termination charge must be 100% of termination amount until 5 years from end of booking
  - Would ensure that there is always commitment present equal to a 5 year booking or full termination amount when any investment undertaken to provide capacity for additional generation

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## CAP165 – UCA Based Alternative
### *Utilisation test*

- In most cases, 25% of the termination amount will be greater than a year's worth of TNUoS
  - In negative charging zones and many positive zones
- Rather than close, generators would let booking run its course
- Therefore, utilisation test required
- Could just be based on generating once in financial year
  - Less onerous than proving period in negative zones
- A certain proportion of TEC would need to be achieved
- Appeals process for generators on outage for more than a year?
  - But more appropriate than a test which doesn't require generation each year?

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## CAP165 – UCA Based Alternative
### *Post-commissioning security*

- Post-commissioning termination charges would only be secured for generators over a certain age, or when booking is long enough to take them over this threshold
  - This would be defined on a technology specific basis
- An appeals process might be required?
  - Could include an independent risk assessment?

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## CAP165 Alternative Approach

*Pre- and Post-Commissioning User Commitment*

21 August 2008

Any queries, please contact Stuart Cotten (Drax Power) or Rob Rome (BE)

## User Commitment

- Different problems require different solutions
  - Pre-Commissioning:
    - User commitment demonstrated by investment in the asset
    - Once commissioned, we would expect maximum utilisation of the asset
    - No short term issues for National Grid or the generator
  - Post-Commissioning:
    - User commitment becomes problematic at the end of the asset's life
    - Generator must base its decision on market signals
    - National Grid seeks more certain investment signals and closure signals

2

## Issues to Address I

- Generators base their investment decisions on a number of factors including:
  - Input costs (fuel, carbon, Capex, fixed costs, etc…)
  - Revenues (power, ROCs, etc…)
  - Transmission access costs (TNUoS)
  - Changes in legislation (e.g. environmental)
- Transmission Owners base their decisions on different factors:
  - Investment in the network has to match the generation asset's life
  - There may be a mismatch between transmission investment signals and plant closure signals (made uncertain by wholesale energy prices) creating stranded assets which do not:
    - Earn revenue in the price control
    - Contribute to the efficient running of the network
    - Facilitate a competitive energy market

3

## Issues to Address II

- Underlying Issues
  - Inherently difficult to reconcile interests of generators and the transmission network
  - It is difficult to hypothecate a cost for shared assets the "deeper" into the network you go
  - Local charges can be more easily targeted than deep charges
  - It may be that there is an intermediate class of network which is not deep or local as it is only partially made redundant by a particular generation asset closure
- Assumptions
  - Both sides have time sensitivity issues
  - It is in the interests of both sides to provide as much certainty as possible
  - Need to consider the interests of future investors in generation
- The aim of this proposal is to find a compromise
  - Appropriate investment signals and more clear closure signals for National Grid
  - Increase in commitment from post-commissioning generators
  - Certainty of access for all types of generators / investors
  - To work with flexible short-term mechanisms

4

## Proposed Structure – Pre-Commissioning

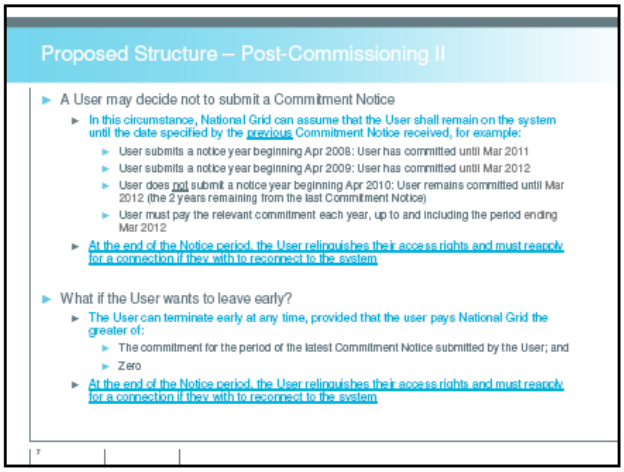
- Use National Grid's UCA Based Alternative methodology
  - 50% of the relevant zonal UCA
    - Profiled 25/50/75/100% over the four years prior to completion
    - This would be secured
  - User Commitment Amount
    - Profiled £1/£2/£3/kW
    - Incurred in the three years prior to this
    - To capture pre-engineering and consent costs
- Open to suggestions…

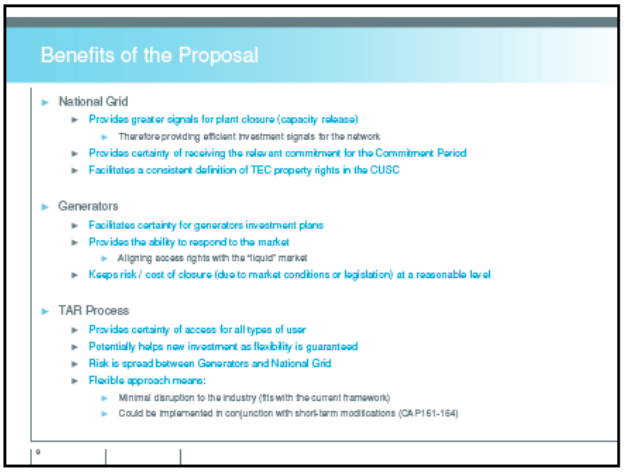
5

## Proposed Structure – Post-Commissioning I

- Industry must decide on the length of a pre-defined "Commitment Period" that:
  a) Allows generators to respond to market conditions; and
  b) Provides National Grid with adequate closure signals
- Setting the length of the Commitment Period
  - Based upon National Grid investment cycles and reasonable generation closure schedules
  - UK power market liquidity would suggest a 2-3 year Commitment Period
  - National Grid's pre-commissioning UCA Based Alternative would suggest a 4 year Commitment Period
  - This should be a compromise to share the risk between the Users and National Grid, although it should be whole financial years
  - For this example, lets assume the Commitment Period is 3 years
- Each year (by the "Commitment Date"), each User informs grid (via a "Commitment Notice") that they shall be there for the Commitment Period
  - National Grid can be certain that:
    - Each User that submits a Commitment Notice is guaranteed to be there for 3 years
    - NG shall receive a relevant user commitment from each User, each year
    - NG now have a signal that further investment is viable in a given area, as required

6


Proposed Structure – Post-Commissioning II
A User may decide not to submit a Commitment Notice
In this circumstance, National Grid can assume that the User shall remain on the system until the date specified by the previous Commitment Notice received, for example:
User submits a notice year beginning Apr 2008: User has committed until Mar 2011
User submits a notice year beginning Apr 2009: User has committed until Mar 2012
User does not submit a notice year beginning Apr 2010: User remains committed until Mar 2012 (the 2 years remaining from the last Commitment Notice)
User must pay the relevant commitment each year, up to and including the period ending Mar 2012
At the end of the Notice period, the User relinquishes their access rights and must reapply for a connection if they with to reconnect to the system
What if the User wants to leave early?
The User can terminate early at any time, provided that the user pays National Grid the greater of:
The commitment for the period of the latest Commitment Notice submitted by the User; and
Zero
At the end of the Notice period, the User relinquishes their access rights and must reapply for a connection if they with to reconnect to the system
7


Benefits of the Proposal
National Grid
Provides greater signals for plant closure (capacity release)
Therefore providing efficient investment signals for the network
Provides certainty of receiving the relevant commitment for the Commitment Period
Facilitates a consistent definition of TEC property rights in the CUSC
Generators
Facilitates certainty for generators investment plans
Provides the ability to respond to the market
Aligning access rights with the "liquid" market
Keeps risk / cost of closure (due to market conditions or legislation) at a reasonable level
TAR Process
Provides certainty of access for all types of user
Potentially helps new investment as flexibility is guaranteed
Risk is spread between Generators and National Grid
Flexible approach means:
Minimal disruption to the industry (fits with the current framework)
Could be implemented in conjunction with short-term modifications (CAP161-164)
8

Mrs Sarah Hall
Technical secretary
TAR – WG CAP165-166
National Grid House
Warwick

19 August 2008

Dear Sarah,

**Inclusion of Non-physical Parties in Long-term Electricity Access Arrangements**

I am pleased to have the opportunity to respond to the above deliberations under WG 2 (CAP 165-166). The position below reflects not only the opinion of Merrill Lynch Commodities (Europe) Trading (MLCE) but of several other active wholesale energy traders in the UK power market the opinion of whom I seeked before drafting this response.

In principle the exclusion of "Non-physical Parties" in proposed "Long-term Electricity Access Arrangements", is discriminatory and against the spirit of a liberalised competitive market, in which different participation capacities bring forward increased liquidity, competitiveness and efficiency. Both in terms of the EU Treaty guarantees of freedom of investment, and in terms of the enshrinement of objectivity and non-discrimination in transmission access as principles at the core of the internal electricity market directive, the *a priori* exclusion of one class of bidder would seem highly questionable under European law. From the outset the question is phrased the wrong way around. There should be a starting assumption of inclusion with the need to prove the case for exclusion otherwise there is more risk of discrimination.

In competitive energy markets there is a difficulty to legislate between "physical" and "non-physical" players as there are two distinctly different issues between:

- Holding the title of a physical Asset (for example a power station)
- Controlling the economic interest of the Asset (for example a Tolling Agreement)

with both classes of Market Players potentially taking either role and therefore having a vested interest into System Access arrangements.

Allowing all parties to participate in access arrangements, improves competition and liquidity for capacity so that where there is a scarce resource, a useful investment signal is developed. Different capabilities may facilitate the entry to the Market of new players particularly if they are small in size and cannot handle the Transmission Risk. Also, the generation market becomes more competitive as a variety of contractual forms are allowed to exist. For example, tolling arrangements and optimisation for merchant plants where capacity is managed by the "off-taker" who may very well be a "Non-Physical" player. Preventing broad access only acts to further cement the vertically integrated model that the UK has drifted towards, and has recently come under fire as not adequately "competitive", by creating a cosy club of like minded interests that will not compete against each other for capacity.

At this point the case of Australian policy deliberations on "Emission Allowances Auctions" should maybe brought into attention:

In a recent Australian policy document the issue of narrowing participation was dismissed, the issue being whether participation at auctions should be universal or restricted to "liable – CO2" entities only. Universal participation would allow non-liable entities, including financial intermediaries, to participate in auctions. Feedback from some entities has indicated concern that the participation of non-liable entities in auctions may result in speculation and the bidding up of prices.

The Australian Policy Decision concluded that: "An auction is more likely to deliver accurate price signals if the field of bidders is competitive. Smaller liable entities may need to use the services of specialist financial intermediaries to help them manage their emissions obligations over the year, as it would be too expensive and inefficient for them to directly participate in auctions."

Perhaps it is worth adding to the commercial arguments the fact that the financial transmission rights markets in the US also permit non-physical players to participate. The reason for that is exactly that financial players, if subject to the same collateral and anti-hording requirements as the rest of the market participants, can bring additional liquidity to the market and offer risk management services to smaller participants that may not have the same capability.

The risk of a 'non-physical' player buying access rights and triggering investment costs that may not be used is no higher than it is for any other party. Obviously Access Arrangements will be designed around some "anti-hoarding" measures, by which access rights may be either transferred in secondary trading or lost if not used by an appropriate deadline. The firm financial commitment for buying capacity and securitising the subsequent TNUOS charges is a real cost for all bidders.

The discussion on gaming is also overplayed. Capacity speculation within networks is not viable when there are appropriate anti-hoarding measures in place, and in any case there can be no provision on which class of Market Player may trade purely on speculative basis. On the other hand no legislation can prevent non-physical players acting on the capacity market through a physical player and a "sleeve" arrangement. Taking as an example the UK Gas Market, abusive squeezes in the gas capacity market have not worked as capacity simply becomes free for those that can physically utilise it. There is no case of abusing gas shippers following the introduction of the auction mechanism. Again this argument on gaming must be proven, not disprove.

Transmission Access Review represents a significant overhaul of the UK Electricity Market and all possibilities should be considered before the scope is narrowed in line with particular interests. The argument that because of current arrangements, only physical parties can apply for Transmission Entry Capacity (TEC) and therefore, in order to allow non-physical parties to trade access, a new category of non-physical user would need to be included and the CUSC would need to be substantially rewritten to separate access rights from users' obligations, is not sufficient to justify an exclusion. TAR is a major exercise and if it requires substantial changes to CUSC so be it. The Technical Obligations and Capabilities (in Connection Conditions of the Grid Code) for which the physical players are rewarded (Ancillary Services etc.) should remain linked to physical generation equipment.

Nick Frydas

# Note on UCA Based Alternative

CAP165 is focussed on providing more certainty for National Grid regarding the exit of plant from the system and on ensuring that both new and existing users provide equivalent levels of user commitment. For existing users this commitment is provided by nominating the number of years of long-term rights they require and paying the appropriate charges.

User commitment is concerned with the potential for stranded assets. Analysis by National Grid has shown that TNuoS is not a good proxy for investment costs in a zone and should not therefore be used as the basis for user commitment. National Grid has therefore proposed an alternative in which commitment is based on UCA, a measure of the potential cost of reinforcement in a revenue driver zone. This is set as part of the price control review and can be quite different from TNuoS in a region. It is proposed that new generators pay a proportion of UCA which increases up to completion. Post-commissioning, generators would book TEC for a period and be liable for TNuoS charges for that period. However, if a generator wished to terminate early, or were deemed to have terminated early, they would face a charge based, not on TNuoS, but on UCA. Although the use of UCA appears to improve commitment, there are serious issues with this approach.

The proposed use of UCA as a termination charge can result in a terminating generator paying more than the total TNuoS charges that they are liable for on the remainder of their booking. This could happen in a positive or negative charging zone. The UCA is therefore essentially a penal charge for terminating early. This is extremely unusual in a contract and we should avoid this if at all possible.

One effect of the penal termination charge is to reduce the efficiency of plant exit from the system. If the profits of a generator are marginal, a decision may be taken to close the plant. However, if the plant faces a termination charge, the losses from running the plant may be less than the termination charge and the plant remains on the system. The economic efficiency of the electricity system is therefore reduced.

Alternatively, the plant could effectively shut but not terminate the TEC booking. The National Grid straw man proposes a test whereby the generator is deemed to have shut if it hasn't generated in that year and does not pass an appeals process. This appears to fundamentally change the nature of TEC from an access product which entitles the holder to generate, to an access product which obliges the owner to generate. Any such change needs to be thoroughly understood and at present, I would be opposed to such a radical change in the nature of TEC.

In developing this modification, trade-offs will need to be made. The trade-off here is between the efficiency of the electricity system as a whole through efficient entry and exit of generation and the potential for stranded assets. At present the working group has not been provided with any information regarding the history of stranded assets or the potential for these in the future. This information is required in order to establish the size of the potential problem and make the appropriate trade-off. Our current view is that, given the large volume of plant wishing to connect to the network, the potential for stranded assets on the wider network will be low.

My current view is that UCA should not be used for user commitment for the wider network. CAP165 is focussed on providing certainty to National Grid by booking access for a number of years and paying the appropriate charge. If a generator terminates early they should be liable for no charges beyond these levels. Any termination charge should therefore be based on TNuoS. If this approach does not provide sufficient commitment, then the effectiveness of introducing finite access rights to provide National Grid with more certainty needs to be questioned.

Cathy McClay, 19th August 2008

# Meeting Nine – 4th September 2008

## CAP165 – Revised National Grid Alternative

*Transmission Access Working Group 2*
*Meeting 9, 4th September 2008*

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## CAP165 – Revised National Grid Alternative
### *Agenda*

- Rationale for revised alternative
- Pre-commissioning user commitment
- Post-commissioning user commitment
- Termination
- Security

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## CAP165 – Revised National Grid Alternative
### *Rationale*

- Previous UCA based alternative driven by concern that any difference in treatment between pre- and post-commissioning generators would be discriminatory
- But it may be justifiable to treat these two groups differently if the costs associated with them are different
  - UCAs reflect incremental investment costs – more appropriate liability for pre-commissioning generator
  - TNUoS reflects long-term costs – more appropriate liability for commissioned generator, generating and contributing to the cost of the transmission system

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## CAP165 – Revised National Grid Alternative
### *Differences between UCAs and TNUoS*

| UCA | TNUoS |
|---|---|
| CAPEX | Annuitised over 50 years |
| Incremental cost | Long run marginal cost |
| Future reinforcement | Current circuits |
| Lumpy | Smooth |
| Includes spare capacity | Excludes spare capacity |
| Gross | Net |
| Absolute | 27:73 |
| Revenue driver<br>local and wider split | Local charging<br>local and wider split |
| Non locational assets included | Locational wider assets only |

## CAP165 – Revised National Grid Alternative
### *Rationale (2)*

- Discrimination may, however, result where pre-commissioning generators do not complete their projects
  - Would terminate, and (in last year prior to commissioning) would incur whole charge, without receiving any access rights
  - A post-commissioning generator paying the whole of its liability would receive access rights for the booking period
- Could avoid this potential discrimination by giving wider access rights for a number of years to terminating pre-commissioning generators
  - (If terminated at a stage where full 50% of UCA incurred)
- How many years?
  - TNUoS is annuitised – a capital contribution would be equal to 15.2 times the annual charge. 50% of this would therefore be equivalent to purchasing 8 years worth of access
  - In addition, system wide comparison of 50% of UCA and TNUoS gives an average of 8 years

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## CAP165 – Revised National Grid Alternative
### *Rationale (3)*

- But what would a user that had cancelled its project do with 8 years worth of access rights?
- Trade them to, or share them with,
  - Another pre-commissioning generator; or
  - A post-commissioning generator.
- BUT – if somebody else uses the rights, then TNUoS would have been the correct charge to have been levied
- Therefore, generator that terminates pre-commissioning should get option to trade rights to, or share them with, another party
  - Would need to ensure that assets utilised
  - If so, TNUoS payments net off remaining UCA liability up to 8 years
  - If rights not sold or shared, full UCA is incurred

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## CAP165 – Revised National Grid Alternative
### *Pre-commissioning user commitment*

- Pre-commissioning termination charge would be based directly on 50% of the relevant UCA ("termination amount")
- Termination amount would be profiled 25/50/75/100% over 4 years prior to commissioning
- A £1/2/3/kW user commitment amount would apply before this (capped to 25% of the termination amount)
  - Covers pre-engineering and consents costs
  - Disincentivises speculative applications
- Users would have to book a minimum access period of 8 years to apply after commissioning

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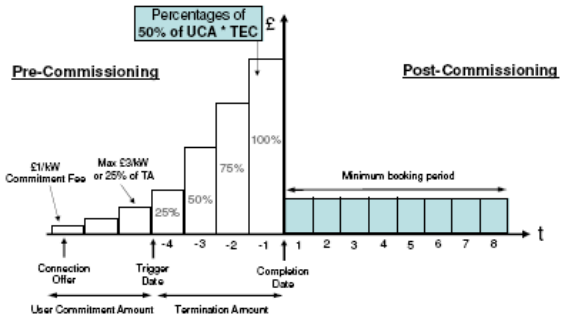
## CAP165 – UCA Based Alternative
### *Pre-commissioning user commitment (2)*

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## CAP165 – Revised National Grid Alternative
### *Post-commissioning user commitment*

- Initial minimum booking period of 8 years
- Otherwise, any period of booking (in whole financial years)
- Generators liable to pay (or be paid) TNUoS charges for entire booking

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## CAP165 – UCA Based Alternative
### *Termination*

- Pre-commissioning generator that does not progress avoids (UCA based) termination charge provided they sell access right to, or share with, another user(s) for minimum period
- Post-commissioning generator that closes early avoids (TNUoS) liability provided they sell access right to, or share with, another user(s) for remaining period

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## CAP165 – UCA Based Alternative
### *Security*

- Security based on 1 year
- Security >1 year (up to 50% of UCA) for pre-commissioning generators
  - Costs do not equal charges
  - Higher risk – no generator assets
- Security may be >1 year for post-commissioning generators in "certain circumstances"
  - i.e. old generators making long bookings
  - Non-physical players?

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## CAP165 – Comparison of Original and Alternative Amendment Proposals

*Transmission Access Working Group 2*
*Meeting 9, 4th September 2008*

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## CAP165
### *Comparison of original and alternatives*

| | CAP165 Original | Revised National Grid Alternative | Drax Rolling Notice Alternative |
|---|---|---|---|
| Pre-commissioning user commitment | 8 years of TNUoS | 50% of UCA | 50% of UCA |
| Profile of user commitment | 25/50/75/100% | 25/50/75/100% | 25/50/75/100% |
| User Commitment Amount | £1/£2/£3/kW | £1/£2/£3/kW | £1/£2/£3/kW |
| Pre-commissioning security | Yes | Yes | Yes |
| Post-commissioning user commitment | Liability to pay TNUoS for booking | Liability to pay TNUoS for booking | Liability to pay TNUoS for booking |
| Minimum initial booking period for new | 8 years | 8 years (UCA applies up to 8 yrs) | Up to X, but only rolling if X |
| Length of commitment | Open ended | Open ended | X years |
| Post-commissioning security | 1 year | 1 year; >1 year under certain criteria | ?? |

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## Analysis on Construction Lead Times

*Transmission Access WG2*
*4th September 2008*

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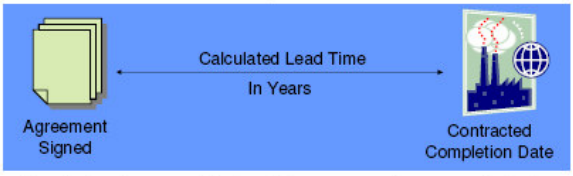
## Construction Lead Time Analysis

- 92 construction agreements reviewed
- The date the agreement was signed is compared with the contracted completion date




- Analysis does not take into account renegotiated completion dates

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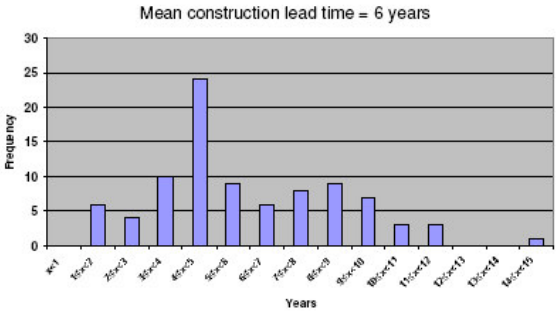
## Construction Lead Time Distribution

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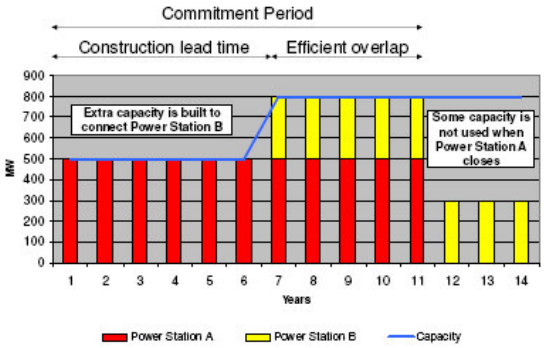
## Required Length of Commitment Period




## Conclusion

- For commitment period to give efficient investment signals it should be:

  length of the construction lead time + efficient overlap period

- This period is likely to be longer than users are willing to commit

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## Meeting Eleven –23rd September 2008

### CAP165 – Scottish Revenue Drivers

*Transmission Access Working Group 2*
*Meeting 11, 23rd September 2008*

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### CAP165 – Scottish Revenue Drivers
*Agenda*

- Background
- England & Wales revenue drivers
- Overview of Scottish revenue drivers
- National Grid transfer revenue driver
- Issues
- Options

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### CAP165 – Scottish Revenue Drivers
*Background*

- TNUoS multiplier not reflective of UCAs
- Therefore, National Grid (and Drax) alternative proposes to use UCAs directly for pre-commissioning user commitment
- In England & Wales, propose to use National Grid "Zonal Surplus" revenue drivers
  - i.e. those associated with non-local investment resulting from an increase in net generation in a zone
- However, Scottish revenue drivers structured quite differently

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### CAP165 – Scottish Revenue Drivers
*England & Wales revenue drivers*

| *Revenue Drivers (£/kW)* | Local | Surplus | Deficit |
|---|---|---|---|
| **South & South West** | 17.5 | **0.0** | 23.3 |
| **Thames Estuary** | 17.5 | **70.0** | 0.0 |
| **London** | 70.0 | **0.0** | 291.6 |
| **South Wales** | 17.5 | **29.2** | 23.3 |
| **East & Home Counties** | 11.7 | **75.8** | 17.5 |
| **West Midlands** | 5.8 | **0.0** | 46.7 |
| **East Midlands** | 5.8 | **64.1** | 11.7 |
| **North West & North Wales** | 35.0 | **52.5** | 0.0 |
| **Yorkshire & Lincolnshire** | 17.5 | **70.0** | 0.0 |
| **North East** | 17.5 | **58.3** | 0.0 |

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### CAP165 – Scottish Revenue Drivers
*Overview of Scottish revenue drivers*

- No zones – defined by TO area
- Focus on local infrastructure
  - £32/kW for SHETL
  - £52/kW for SPT
- Revenue for deeper reinforcement based on £m for certain defined schemes for SHETL
- No schemes defined for SPT
  - "conditions and associated costs too uncertain"
  - Licensees "might wish to propose" additional revenue drivers

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### CAP165 – Scottish Revenue Drivers
*National Grid transfer revenue driver*

- For Scotland to England transfers above baseline, a revenue driver of £320/kW is triggered

| *MW* | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|---|---|
| Scottish Transfers | 2,200 | 2,200 | 2,200 | 2,800 | 3,200 |

- Derived from within baseline increases
  - 2,200MW to 2,800MW @ £175/kW
  - 2,800MW to 3,200MW @ £458/kW
- No SPT revenue drivers for:
  - Cross border flows; or
  - Intra-Scotland transfers

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**CAP165 – Scottish Revenue Drivers**
***Issues***

- National Grid transfer revenue driver
  - £320/kW very significantly higher than E&W UCAs
  - Transitional generators in Scotland are not dependent on E&W or interconnector upgrades
  - But completely cost reflective of higher costs of investing in transmission for Scottish generation
- No zonal wider surplus revenue drivers in Scotland
  - What is most comparable to E&W wider zonal surplus UCAs?

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**CAP165 – Scottish Revenue Drivers**
***Options (1)***

- For National Grid transfer revenue driver
  1. Include at £320/kW
  2. Exclude for transitional projects
  3. Include at £175/kW
     - But other UCAs based on a range of increasingly expensive reinforcements

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**CAP165 – Scottish Revenue Drivers**
***Options (2)***

- For Scottish revenue drivers
  1. Derive a wider UCA for SHETL, based on identified deeper reinforcements
     - £102/kW (plus £320/kW)
     - SPT zero? (plus £320/kW)
  2. Derive wider UCAs by taking total baseline allowances and deducting local UCAs
     - SHETL £45/kW
     - SPT £159/kW
  3. Calculate equivalent figures from costs for a range of connection schemes?

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## CAP165 Alternative Approach

*Pre- and Post-Commissioning User Commitment*

23 September 2008

Drax Power Limited

## User Commitment Dilemma

- Different problems require different solutions
  - Pre-Commissioning:
    - User commitment demonstrated by investment in the asset
    - Once commissioned, we would expect maximum utilisation of the asset
    - No short term issues for National Grid or the generator
  - Post-Commissioning:
    - User commitment becomes problematic at the end of the asset's life
    - Generator must base its decision on market signals
    - National Grid seeks more certain investment signals and closure signals

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## Issues to Address

- Generators base their investment decisions on a number of factors including:
  - Input costs (fuel, carbon, Capex, fixed costs, etc…)
  - Revenues (power, ROCs, etc…)
  - Transmission access costs (TNUoS)
  - Changes in legislation (e.g. environmental)
- Transmission Owners base their decisions on different factors:
  - Investment in the network has to match the generation asset's life
  - There may be a mismatch between transmission investment signals and plant closure signals (made uncertain by wholesale energy prices) creating stranded assets which do not:
    - Earn revenue in the price control
    - Contribute to the efficient running of the network
    - Facilitate a competitive energy market
- Underlying Issues
  - Inherently difficult to reconcile interests of generators and the transmission network
  - Difficult to hypothecate a cost for shared assets the "deeper" into the network you go
  - Local charges can be more easily targeted than deep charges
  - It may be that there is an intermediate class of network which is not deep or local as it is only partially made redundant by a particular generation asset closure

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## Aim of this Proposal

- Assumptions
  - Both sides have time sensitivity issues
  - It is in the interests of both sides to provide as much certainty as possible
  - Need to consider the interests of future investors in generation
- The aim of this proposal is to find a compromise
  - Appropriate investment signals and more clear closure signals for National Grid
  - Increase in commitment from post-commissioning generators
  - Certainty of access for all types of generators / investors
  - To work with flexible short-term mechanisms

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## Pre-Commissioning User Commitment

- National Grid's UCA Based Alternative methodology
  - 50% of the relevant zonal UCA
    - Profiled 25/50/75/100% over the four years prior to completion
    - This would be secured
  - User Commitment Amount
    - Profiled £1/£2/£3/kW
    - Incurred in the three years prior to this
    - To capture pre-engineering and consent costs

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## Post-Commissioning User Commitment

- User Commitment equals
  - TNUoS x Commitment Period (years)
- Length of the Commitment Period should:
  a) Allow generators to respond to market conditions
  b) Provide National Grid with adequate closure signals
- This proposal has a 4 year Commitment Period, based upon:
  - National Grid analysis suggesting an average (mean) six year period from signing a connection agreement to commissioning
  - UK power market tends to have 2-3 year liquidity
    - However, when hedging large plant this is closer to 2 years due to lower liquidity in later years
  - The effect of new legislation needs to be taken into account
    - Creation of new legislation tends to be a lengthy process
    - However, the detailed effects of new legislation tend to be known later in the process
  - The 4 year commitment period provides a 3 year notice period
    - CAP131 analysis suggests that up to 25% of transmission investment occurs >3.5 years prior to commissioning
    - Therefore, the proposal could avoid up to 75% of unrequired pre-commissioning investment
  - The Commitment Period should be based upon whole years (i.e. Apr-Mar)
- This is a compromise solution that shares the risk between the generators and National Grid

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## Proposed Process

- All current and newly commissioned generators follow the same process, although:
  - Existing generators at the time of approval follow the "Transition Period Process" (later in this presentation)
  - New generators must commit to the system for a minimum period of 4 years (entering the rolling process)
- By the 31 March (or prior working day if this falls on a non-working day) each year, each generator must decide whether to:
  a) Remain on the system for another 4 years
     - No action required by the generator
     - NG shall receive TNUoS from the generator each year for at least the following 4 years
     - NG now have a signal that further investment is viable in the applicable area
  b) Decide to leave the system after the next 3 years
     - The generator submits a "Commitment Notice"
     - NG shall receive TNUoS from the generator each year for the next 3 years only
     - The generator leaves the system at the end of the 3 years; for clarity:
       - Generator submits a Commitment Notice on 31 March 2009
       - Generator does not have the option to remain on the system beyond the third year of the notice, unless they successfully reapply for capacity (next slide)
       - Generator has no further commitment to pay after 31 March 2012
     - At the end of the Notice period, the generator relinquishes their access rights and must reapply for a connection if they wish to reconnect to the system

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## Early Termination & Reapplication

- A generator can leave the system early at any time
  - However, the generator must pay National Grid the greater of:
    a) Any outstanding commitment for the current year plus either:
       i) If no Commitment Notice has been received, the relevant commitment for the next three years
       ii) If a Commitment Notice has been received, the relevant commitment for the remainder of the notice period
    b) Zero
  - The generator relinquishes their access rights and must reapply for a connection if they wish to reconnect to the system
- A generator that has left the system may apply to rejoin the system at any time
  - They can only rejoin if there is capacity available
  - All users wishing to join the system will have equal priority (new users and previous users)
  - A returning user must specify how many years they wish to rejoin the system, either:
    a) A 4 year Commitment Period: if available, the user joins the system and enters the rolling notice period regime
    b) A 1, 2 or 3 year Commitment Period: if available, the user commits to paying TNUoS each year, leaving the system at the end of the requested Commitment Period
       - At the end of the Commitment Period, the generator relinquishes their access rights and must reapply for a connection if they wish to reconnect to the system

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## Transition Period Process

- During the transition period, existing generators must specify how many years they wish to remain on the system, either:
  - A 4 year Commitment Period: the user enters the rolling notice period regime
  - A 1, 2 or 3 year Commitment Period: the user commits to paying TNUoS each year, leaving the system at the end of the requested Commitment Period
    - At the end of the Commitment Period, the generator relinquishes their access rights and must reapply for a connection if they wish to reconnect to the system

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## Benefits of the Proposal

- National Grid
  - Provides greater signals for plant closure (capacity release)
    - Therefore providing efficient investment signals for the network
  - Provides certainty of receiving the relevant commitment for the Commitment Period
  - Facilitates a consistent definition of TEC property rights in the CUSC
- Generators
  - Facilitates certainty for generators investment plans
  - Provides the ability to respond to the market
    - Aligning access rights with the "liquid" market
  - Keeps risk / cost of closure (due to market conditions or legislation) at a reasonable level
- TAR Process
  - Provides certainty of access for all types of generator
  - Potentially helps new investment as flexibility is guaranteed
  - Risk is spread between generators and National Grid
  - Flexible approach means:
    - Minimal disruption to the industry (fits with the current framework)
    - Could be implemented in conjunction with short-term transmission access modifications

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# ANNEX 8 – LEGAL TEXT TO GIVE EFFECT TO THE WORKING GROUP ALTERNATIVES FOR CAP165