

**CUSC Amendment Proposal Form****CAP172****Title of Amendment Proposal:** Capacity Pricing Mechanism**Description of the Proposed Amendment** (mandatory by proposer):Summary

CAP172 proposes to change the methodology by which Users are allocated access rights to the system.

In order to generate on the system, Users will need to signal their requirements for LCN (Local Capacity Nomination) which sets the limit on generation for their local connection. Once they have done this, they then have a choice as to how they wish to secure their access rights to the wider system. They can book long-term access rights via the “Capacity Pricing Mechanism” or could take advantage of one of the short-term products being considered as part of CAP161 or ultimately could decide to not book a capacity product as such and hence be liable to pay the applicable overrun charge for their generation.

The following table provides a summary of the features of the different types of access products:

Features	Access Products		
	LCN	Long-term access	Overrun
Allocation Methodology	First come first served	Capacity pricing mechanism	If generation > Long-term or short-term product then deemed to overrun
Nature of rights	Enduring	Finite for length of booking	½ hourly concept
Charging	Local charges TNUoS based	Time-average SRMC (collared by long-run cost, such as LRMC)	½ hourly marginal cost based
Security	Ramping up to 8 times local TNUoS charge	Ramping up to 8 times long-run cost	n/a
Liability	Current year's booking	Complete booking period	Pay charges
Shareability	Shareable	Limited by specific load-duration and buy-back information	n/a

Details

CAP172 proposes that the System Operator provides the opportunity for generators to signal their requirements for access in the long-term and that it calculates a firm price based on a forecast of the short-term costs that would be caused through a “Capacity Pricing Mechanism”.

Given the uncertainties inherent in the forecast of short-term costs, the trade-off in CAP172 is that it would require generators to provide additional contractually committed information about their intended use of the transmission system. This information would influence the price at which they would be allocated capacity via the Capacity Pricing Mechanism. This information is listed below:

- **Load Duration Curve** (MW; proportion of year)

Since short-term costs are driven by a generator's use of the transmission system throughout the year rather than their maximum output, generators will be required to provide a schedule of maximum output (in MW) and associated proportion of the year (in hours).

- **Buy-Back Price Information**

Since export constraint costs caused through over-allocations of transmission access depend on the compensation payable to generators through balancing mechanism bid prices, generators will be required to enter into a "contract for difference" that would sit around their balancing mechanism bid price. In periods where a relevant export constraint is active then all BM Bid cashflows for units that affect the relevant export constraint would be re-calculated based around the Power Station Buy-Back price and not the submitted BM Bid price.

In order to achieve an optimal outcome for all generators, it is proposed that the Capacity Pricing Mechanism includes a number of rounds. Generators would provide the information summarised above in round 1, National Grid would calculate the associated prices, the generators would then get the opportunity to update the information they submit in round 2 and so on. This process would continue until either a maximum number of rounds is reached or a stability criterion is met.

At the end of the Capacity Pricing Mechanism, generators obtain the access rights described by the information they submitted in the final round of the process at the associated firm price calculated by National Grid.

CAP172 proposes the introduction of the following elements, all of which are explained in greater detail in the Attachment to this Amendment proposal form.

**Capacity Pricing Mechanism:**

The Capacity Pricing Mechanism will run in September and October of each year. It will require Users who wish to participate in it to submit the following parameters for each Power Station:

- MW Capacity required and the Duration MW are required for (an identified set of years)
- A Buy-Back Price which will set up a "contract for difference" about the User's negatively numbered Bid-Offer price submissions submitted for BM Units at the Power Station
- A Load Duration Curve which will define the access right within year based upon MWh running at different levels of output. Actual output in excess of this will be charged at a different rate to that emerging from the Capacity Pricing Mechanism.

The Capacity Pricing Mechanism will include a number of rounds. In each round participating Users may revise (either increase or decrease) any of the above parameters which may or may not lead to a revision in their provisional price of capacity. Once the Capacity Pricing Mechanism closes all provisional prices will become firm and Users will become contractually liable to pay charges based upon the outturn Capacity Pricing Mechanism Prices.

**Annual Capacity Pricing Mechanism: Pre-Qualification**

As a condition of entry into the Capacity Pricing Mechanism all Users must have a valid accepted agreement for LCN and confirm that they wish to take part in that year's Capacity Pricing Mechanism by the 15<sup>th</sup> July prior to the start of the Capacity Pricing Mechanism. All Users that are qualified and indicate they wish to participate in that year's Capacity Pricing Mechanism will receive confirmation of their eligibility by 15<sup>th</sup> August.

## **LCN**

The concept of LCN as established by Transmission Access Working Group 3 will also be applicable to CAP172. That is the concept of LCN will be introduced that has the following features:

- 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 as defined in CAP162;
- 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 generator's 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.
- LCN will be a right only terminated in accordance with terms to be expressly defined within the CUSC;
- Works to facilitate LCN will be calculated by reference to the assets required to connect a Power Station to its nearest Main Interconnected Transmission System (MITS) substation. A MITS Substation will be defined as a substation with more than 4 transmission circuits connected to it or a Grid Supply Point with more than one circuit connected to it.

### **LCN Application Process:**

Users will apply for LCN in a similar manner to the current application process for Connection / Use of System. When accepting an offer for LCN Users will have a choice to either proceed with the construction of local assets immediately (therefore incurring the relevant charges for security) or delay such a programme until the results of the next such Capacity Pricing Mechanism are known.

### **Mechanism Closure Rules**

The Capacity Pricing Mechanism will close should the provisional prices notified to all Users not change between three successive rounds, or will time out at the end of October.

### **Ex-Ante Pricing**

Users will be allocated a fixed price of access through the Capacity Pricing Mechanism that is reflective of both the submitted buyback price and the load duration curves of all generators participating in the Capacity Pricing Mechanism.

**Securities for Transmission Access Rights (LCN & Pricing mechanism)**

Users will be required to put in place securities for LCN equivalent to:

Time Period	Secured Amount
In the period more than 48 months prior to the LCN Completion Date	Nil
In the period commencing 48 months prior to the LCN Completion Date until 36 months prior to the LCN Completion Date	$TNUoS_{Local} \times 2$
In the period commencing 36 months prior to the LCN Completion Date until 24 months prior to the LCN Completion Date	$TNUoS_{Local} \times 4$
In the period commencing 24 months prior to the LCN Completion Date until 12 months prior to the LCN Completion Date	$TNUoS_{Local} \times 6$
In the 12 months prior to the LCN Completion Date	$TNUoS_{Local} \times 8$

Regarding the Capacity Pricing Mechanism:

Time Period	Secured Amount
In the period more than 48 months prior to the Wider Reinforcement Completion Date	Nil
In the period commencing 48 months prior to the Wider Reinforcement Completion Date until 36 months prior to the Wider Reinforcement Completion Date	$\Theta \times 2$
In the period commencing 36 months prior to the Wider Reinforcement Completion Date until 24 months prior to the Wider Reinforcement Completion Date	$\Theta \times 4$
In the period commencing 24 months prior to the Wider Reinforcement Completion Date until 12 months prior to the Wider Reinforcement Completion Date	$\Theta \times 6$
In the 12 months prior to the Wider Reinforcement Completion Date	$\Theta \times 8$

Where  $\Theta$  denotes the long-run level (in £/kW) of the Users' charges throughout their access booking and the "Wider Reinforcement Completion Date" is the first year in which this long-run level of charge is valid.  $\Theta$  will be calculated in accordance with the charging methodology.

**Liabilities for Transmission Access Rights (LCN & Pricing mechanism)**

Users will be liable to pay the remainder of the current year's LCN charges should they terminate their bilateral agreement. Users will also be liable to pay the remainder of their liabilities for charges for the period booked under the Capacity Pricing Mechanism.

**Consequences of Late Delivery**

Should National Grid fail to deliver a LCN connection prior to the commencement of access rights priced through the Capacity Pricing Mechanism, no charge will be made for these rights. Should National Grid deliver a LCN connection, Users locational charges for that access based upon the existence of wider reinforcements will remain the same even if the actual costs are greater due to a failure to deliver those wider reinforcements to schedule.

**Over-run Charging**

Users will be charged overrun for any output in excess of the load duration curve they have submitted as part of their Capacity Pricing Mechanism parameters. The overrun volume will be calculated by keeping a running tally of Users' generation output against their submitted

load duration curve. Output in excess of this load duration curve will be treated as overrun volume and will be charged with reference to an actual locational marginal short-run half hourly tariff.

### Transition

A transitional process will be required principally for the roll-out of LCN and the redefinition of existing Generators Transmission Access Rights prior to the commencement of the first Capacity Pricing Mechanism.

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

The current entry access arrangements give existing generators a right to access the transmission system subject to a right to terminate or reduce these rights. These rights are allocated on a first come first served basis, so that, in the constrained period (until incremental transmission infrastructure investments are constructed), new Users have no ability to gain long-term access rights from the System Operator even if they would value them more highly than incumbents.

Identifying the true value is important as it enables the transmission licensees to better develop and maintain an efficient, co-ordinated and economical system of electricity transmission. Allocating transmission access rights on this basis will also enable access to be made available to all Users on an equivalent basis.

The fact that the true value of transmission access rights cannot be discovered from the market compromises transmission licensees' ability to develop an optimally economical system of electricity transmission, as well as creating a barrier to entry. Entry could be facilitated by improving the availability of access rights but only where the true costs of those rights can be signalled to Users.

The proposed amendment also seeks to address the issue that the current arrangements, whereby generators have a rolling option, do not provide any certainty to National Grid and Transmission Owners. 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 currently held by incumbents.

National Grid believes that both of the above issues would be addressed through the introduction of a Capacity Pricing Mechanism for long-term entry capacity rights. The allocation of such rights through such a mechanism would ensure that rights were released at value and to those that are willing to commit to their long-term use, thereby facilitating the economical development of the transmission system. The long-term booking of capacity, with associated User commitment, would also provide more efficient investment signals, thereby reducing the risk of stranding, and would facilitate the release of existing capacity to new entrants.

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

The following sections are likely to require amendment as a consequence of this Amendment Proposal

CUSC Section 2

CUSC Section 3

Section 5

Section 6

Section 9

Section 10

Section 11

Schedule 2 Exhibit 1 (BCA)

Schedule 2 Exhibit 2 (BEGA)

Schedule 2 Exhibit 3 (Construction Agreement)  
 Exhibit B (BCA Application)  
 Exhibit C (BCA Offer)  
 Exhibit D (BEGA Application)  
 Exhibit E (BEGA Offer)

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

A new methodology statement will be required to facilitate the operation of the Capacity Pricing Mechanism including the incremental release of new transmission capacity.

<http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/currentamendmentproposals/>

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

A new IS system to allow for the efficient submission of Capacity Pricing Mechanism parameters by Users in each round and also the notification of the results of each round will be required to be developed. National Grid will also need to develop the Capacity Pricing Mechanism algorithm alongside this.

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

Modifications to the STC will be required to ensure that LCN offers may be made to Users. Amendments to the STC may also be required to facilitate the incremental capacity release methodology.

Amendments to the Use of System Charging Methodology Statement will also be required. For the avoidance of doubt all charging issues that are raised by this amendment proposal will be taken forward under charging governance by National Grid. National Grid intends to raise separate complementary charging methodology modifications alongside this CUSC amendment proposal.

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

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

**By reference to the Applicable CUSC Objectives**

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 discovery of additional information about Users' transmission requirements, including the buy-back, duration and load duration, 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 able to obtain existing transmission access rights on an equal basis, and such rights would be allocated accurately reflecting the costs that the release of such capacity incurs
- Existing capacity could be allocated with certainty to new entrants as a result of the firm bookings of capacity made through the Capacity Pricing Mechanism; 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.

### **Additional Rationale**

*Though not strictly an assessment against the Applicable CUSC objectives this section gives further rationale based upon discussions held by Working Group 2 when assessing CAP166.*

In April 2008 National Grid proposed a suite of CUSC Amendment Proposals (CAP161-CAP166) which aimed to present a range of options that would seek to reform the existing arrangements for the allocation of transmission access rights. These broadly fell into two categories; CAP161-163 were predominantly short-term solutions that sought to maximise the efficient use of the existing GB Transmission System, CAP164-CAP166 sought longer term solutions: Connect & Manage (CAP164), Finite Long Term Transmission Access Rights (CAP165) and Transmission Access Auctions (CAP166).

The objective of the overall package of amendments was to introduce both a flexible short-term and long-term access regime through which Users could effectively choose the most beneficial means of gaining transmission access rights. By implementing combinations of these modifications, it was thought that Users would be able to make decisions between the purchase of short-term rights (priced at the operational cost) and the purchase of long-term rights (priced at the asset cost). This should incentivise generators to book an efficient level of long-term access rights, which would in turn allow the efficient level of transmission investment to be discovered from the market.

During the development and assessment of these modifications by the Transmission Access Review Working Groups, a number of concerns regarding this approach were raised:

- Given that the requirement for transmission investment is based on the requirements of groups of Users rather than individual Users, there is concern that Users will not be in a position to forecast the short-term price of transmission access, leading to inefficient decisions regarding the level of long-term access rights and ultimately inefficient investment in the transmission system.  
Many Users have made the point that transmission access is simply a “ticket to ride” which allows participation in the energy market and that this would mean that generators may be prepared to overbook long-term access rights in order to provide price certainty.
- Given that we currently have a significant “queue” of generators seeking access to the transmission system, there is concern that the introduction of a flexible short-term access regime will not address this issue since short-term access is not sufficiently “bankable”.

It is National Grid’s view that CAP172 would address these concerns that emerged from the assessment of CAP161-166 as it would allow the following:

- Users have the opportunity to react to transmission prices which are calculated based on the aggregate requirements of participating Users which are discovered as part of the Capacity Pricing Mechanism;
- The transmission prices calculated are fixed ex ante and therefore should allow new Users to “bank” projects. It is also worth noting that the level of transmission access rights priced as part of this mechanism is only limited by Users willingness to pay the forecast price, rather than the existing regime which is linked to the delivery of transmission investments. This therefore provides certainty to Users regarding the year

in which they connect.



<b>Details of Proposer:</b> Organisation's Name:	National Grid
<b>Capacity in which the Amendment is being proposed:</b> (i.e. CUSC Party, BSC Party or "energywatch")	CUSC Party
<b>Details of Proposer's Representative:</b> Name: Organisation: Telephone Number: Email Address:	Mark Duffield National Grid 01926 654971 <a href="mailto:Mark.Duffield@uk.ngrid.com">Mark.Duffield@uk.ngrid.com</a>
<b>Details of Representative's Alternate:</b> Name: Organisation: Telephone Number: Email Address:	Patrick Hynes National Grid 01926 656319 <a href="mailto:Patrick.Hynes@uk.ngrid.com">Patrick.Hynes@uk.ngrid.com</a>
<b>Attachments (Yes/No): Yes</b> <b>If Yes, Title and No. of pages of each Attachment:</b> "CAP172 – Detailed Principles", 18 pages	

**Notes:**

- Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.
- The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

The completed form should be returned to:

Bali Virk  
Commercial Frameworks  
National Grid  
National Grid House  
Warwick Technology Park  
Gallows Hill  
Warwick  
CV34 6DA

Or via e-mail to: [Bali.Virk@uk.ngrid.com](mailto:Bali.Virk@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.