CAP171 “Capacity Pricing Mechanism”

Presentation to CUSC Panel

30th March 2009

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CAP171 - Overview

- **CAP171 is proposed by National Grid**
  - Proposes to release and price Transmission Access Rights through a “Capacity Pricing Mechanism” (CPM)
    - CPM essentially a Capacity Duration allocation mechanism
    - Forecasts Short Run Marginal Costs that inform Users’ tariffs
    - Forecast is influenced by parameters submitted by Users
  - Also proposes to implement a Buyback mechanism, revised security arrangements, Overrun mechanism, and LCN
  - Allows charges to be directed to Users most likely to cause short-run costs
    - Lower Load Factor plant generally receive lower tariffs than higher load factor plant
    - More positive buyback prices also result in lower tariffs

CAP171 - Overview

- **Broadly based upon the work of TAR Working Group 2**
  - CAP166 WGAA3 specifically
- **Key Similarities**
  - Capacity-Duration Allocation Mechanism
  - Capacity Price* set through a combination of long-run and short-run costs
- **Key Differences**
  - Access Right defined by reference to Load Duration Curve (LDC)
  - Users may influence prices through submitted data including LDC and also Buy-Back Price

* - Pricing methodology will be consulted upon separately through Charging Governance

CAP171 - Defect

- **Existing transmission access rights are allocated on a first come first served basis, so that, 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.**
  - Entry could be facilitated by improving the availability of access rights but only where the true cost of those rights can be signalled to all Users.
  - Allocating transmission access rights on this basis will also enable access to be made available to all Users on an equivalent basis.
  - Identifying the true cost is important as it enables the transmission licensees to better develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

CAP171 - Defect

- **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.

CAP171 – Overview

- **Key Features**
  - Capacity Pricing Mechanism
  - Buy-Back Price
  - Load Duration Curve (LDC)
  - Overrun
  - Security Arrangements
  - LCN
- **Process**
  - Enduring Process
  - Transitional Process
- **Assessment against the Applicable CUSC Objectives**
- **Urgent Amendment Request**

CAP171 – Key Features

- **Capacity Pricing Mechanism (CPM)**
  - Users submit:
    - Capacity (MW) and each year access is required
    - Load Duration Curve (LDC)
    - Buy-Back price (£/MWh)
  - Each parameter may be defined for each year of booking
  - CPM ranks generators according to above parameters
  - Then probabilistically samples output based upon submitted Load Duration Curve
  - National Grid calculates nodal Short-Run Marginal Cost forecasts
  - Average over a number of simulations sets nodal SRMC

CAP171 – Key Features

- **Buy-Back Price**
  - Key parameter of the SRMC forecasting tool
    - Merit Order created by ranking by Buy-Back price (more positive price signals marginal plant, less positive / more negative signals more inflexible plant)
    - Buy-Back price also forms one input parameter when forecasting cost of constraints
  - Places a reference price for a “contract for difference” around the submitted BM Bid Price for BM Units at a Power Station
    - If a Generator with a buy-back price is bid back in the BM then all cashflows collared to this price (BM price more positive than Buy-Back Price then BM price used, otherwise Buy-Back Price)

CAP171 – Key Features

- **Load Duration Curve**
  - Another key parameter of the SRMC forecasting tool
    - Sets a schedule of maximum output (in MW) and associated proportion of each year (in hours)
    - Forecasting model probabilistically samples individual Power Station output from submitted Load Duration Curves
  - Contractually binding term – any actual output in excess of Load Duration Curve is charged as Overrun
  - Load Duration Curve therefore defines the User's Access Right

CAP171 – Key Features

- **Overrun**
  - Overrun will be charged on any output in excess of the contractual LDC
  - Exact proposals to be developed through associated Charging Consultation
  - One proposal may be to charge on an ongoing basis meaning that as User progressively “uses up” its submitted LDC any output in excess of it is charged as Overrun
  - Second proposal may be to rerun the model at the end of each season with the actual Load Duration Curves and recalculate costs

CAP171 – Key Features

- **Securities**
  - Two key categories: Local and Wider

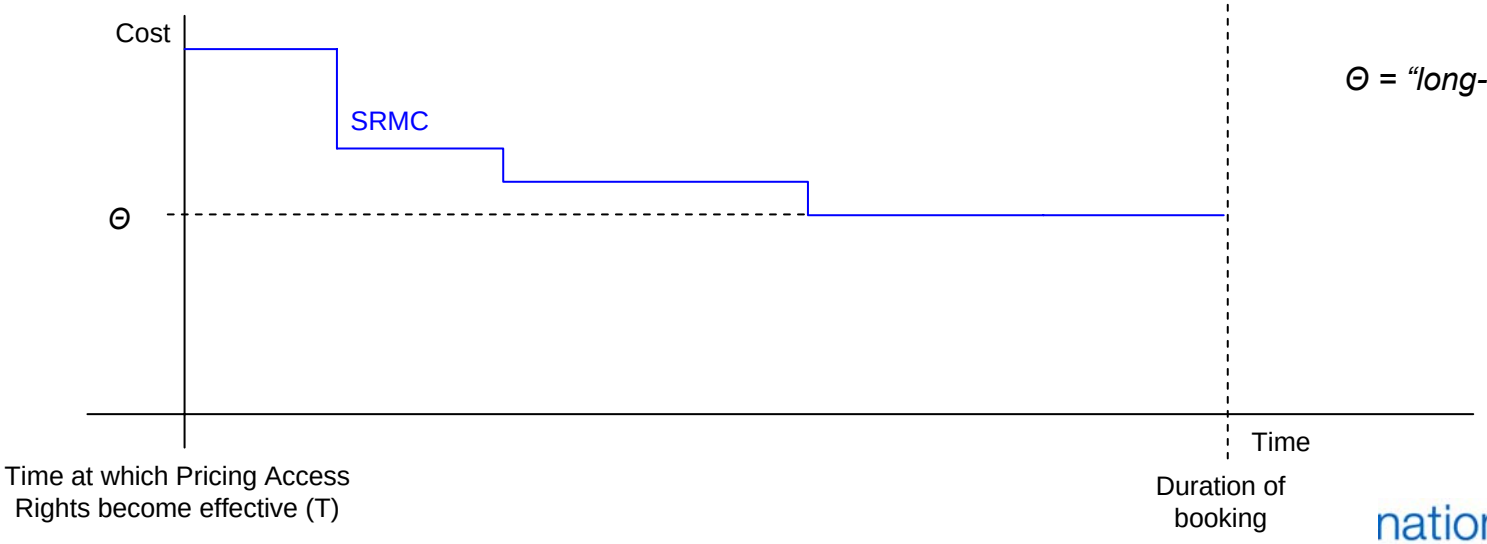
- **Local Securities**

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	TNUoSLocal × 2
In the period commencing 36 months prior to the LCN Completion Date until 24 months prior to the LCN Completion Date	TNUoSLocal × 4
In the period commencing 24 months prior to the LCN Completion Date until 12 months prior to the LCN Completion Date	TNUoSLocal × 6
In the 12 months prior to the LCN Completion Date	TNUoSLocal × 8

CAP171 – Key Features

Wider Securities

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	Θ × 2
In the period commencing 36 months prior to the Wider Reinforcement Completion Date until 24 months prior to the Wider Reinforcement Completion Date	Θ × 4
In the period commencing 24 months prior to the Wider Reinforcement Completion Date until 12 months prior to the Wider Reinforcement Completion Date	Θ × 6
In the 12 months prior to the Wider Reinforcement Completion Date	Θ × 8



Θ = "long-term" SRMC

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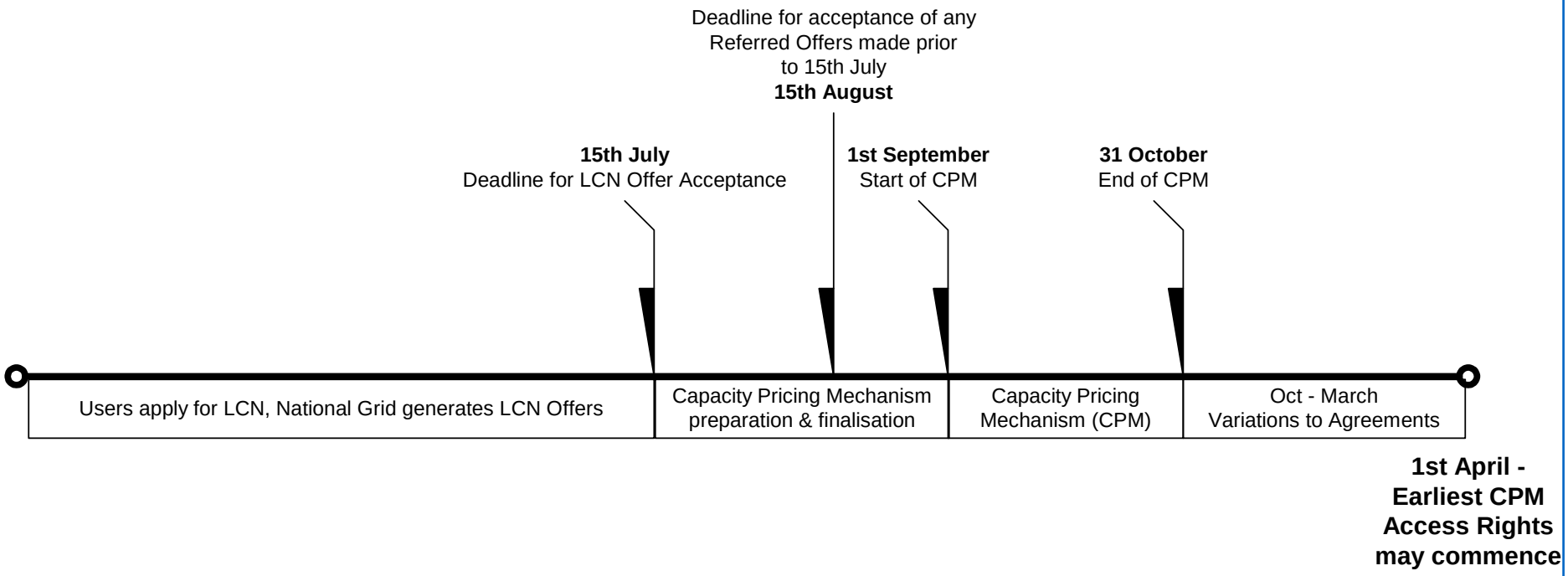
CAP171 – Key Features

- **Local Capacity Nomination (LCN)**
  - Concept of LCN Developed by TAR Working Group 3 retained in CAP171
    - LCN represents the physical (and contractual) cap on the total generators' transmission access (MW) derived from all access products
    - LCN is the basis upon which a generator's local asset charge will be calculated and levied;
    - LCN is defined on a Power Station basis, will not exceed a generator's CEC and will be allocated on a first-come-first-served basis;
    - LCN is shareable between generators,
    - LCN will be a right only terminated in accordance with terms to be expressly defined within the CUSC;
- **LCN will be a necessary pre-requisite to participate in the Capacity Pricing Mechanism**

CAP171 – Enduring Process

- **Enduring Process centred around Capacity Pricing Mechanism in September and October of each year**



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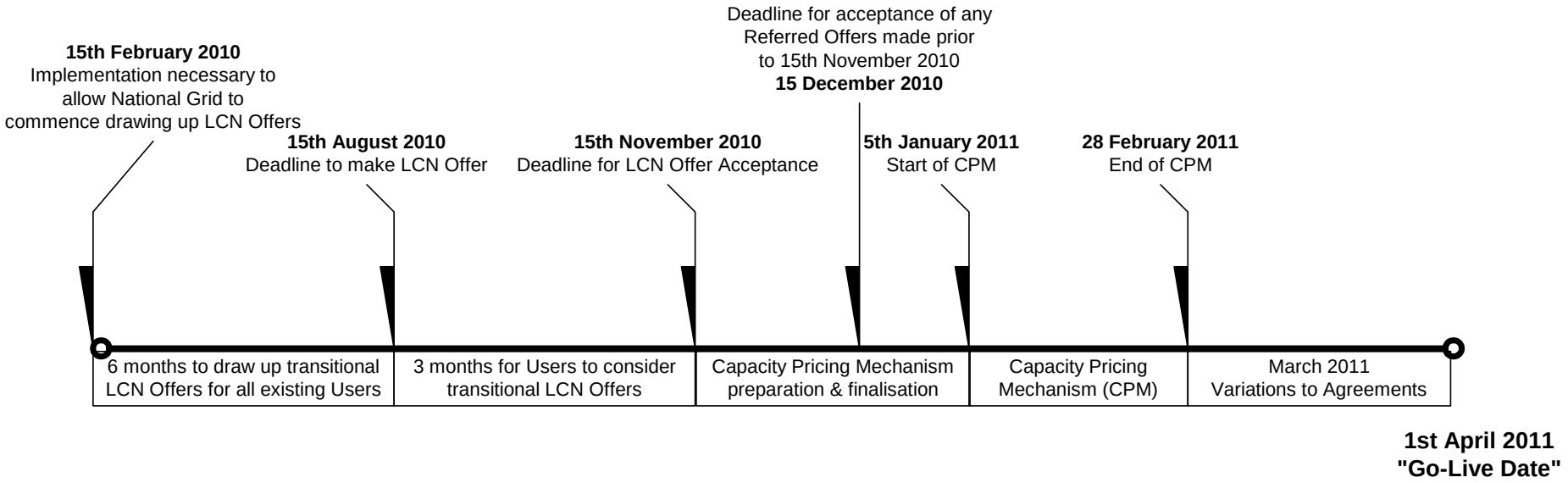
CAP171 – Transitional Process

- **Transitional Process centred around Capacity Pricing Mechanism in January and February prior to first year**



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CAP171 – Assessment against the Applicable CUSC Objectives

- **(A) The efficient discharge by the licensee of the obligations imposed upon it under the Act and by the Licence,**
  - 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.

CAP171 – Assessment against the Applicable CUSC Objectives

- **(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.

CAP171 – Urgent Amendment Request

- **CAP171 proposes significant reform of the Transmission Access arrangements**
- **Closely linked to the other TAR amendment proposals**
  - Specifically CAP166 WGAA3
- **Raised against a backdrop of an imminent Ofgem Regulatory Impact Assessment of CAP161-166**
- **National Grid believes that the assessment of this proposal should be expedited to allow it to be assessed alongside CAP164-166 as soon as possible**

CAP171 – Urgent Amendment Request

- **National Grid has developed the following provisional assessment timetable:**

Amendment Raised	**25 March 2009**
Provisional Working Group Dates	**6th April 2009** **15th April 2009** **21st April 2009** **27th April 2009**
WG report submitted to Panel	**28 April 2009**
Panel consider WG report	**01 May 2009**
Amendment submitted to Company Consultation	**07 May 2009**
Company Consultation closes	**21 May 2009**
Draft Amendment Report circulated to Industry	**26 May 2009**
Panel undertake Recommendation Vote	**29 May 2009**
Final Amendment Report submitted to the Authority	**05 June 2009**