

## **Report from the Transmission Access Standing Group to the CUSC Panel**

### **EXECUTIVE SUMMARY**

*To be completed after the body of the report*

#### **NOTES TO FELLOW TASG MEMBERS.**

- *Please provide comments before end of Friday 8<sup>th</sup> August*
- *If you have comments on the text itself, please use Tracking and mark up any changes you want to make.*
- *If you have comments, but are not suggesting drafting, as such, please supply comments in {in italics} adjacent to the appropriate section*
- *I will take account of any comments or proposed changes in formulating the final report, but do not promise to use your precise text*
- *If you have a major issue please raise it sooner rather than later, so that I can air it at a group meeting.*
- *Please assume that Richard and I will fill in the non-contentious bits and appendices.*
- *I will be returning from holiday immediately before the next TASG meeting (11<sup>th</sup> August) and will download all comments on the Sunday before. I will attempt to produce a revision for the meeting on the Monday 11<sup>th</sup>. That means you will not see the revised paper before the next meeting.*

### **1. INTRODUCTION**

On xx/xx/xx Ofgem published the agreed Systems Operator Incentive Scheme for the period April 2003-March 2004 (ref XXX). Within the scheme document NGC gave a number of undertakings, including to review transmission access arrangements and if appropriate bring forward change proposals for the CUSC and/or charging methodologies (See Appendix A). The approach taken is incremental evolution from the current position, not radical transformation. As part of this undertaking the terms of reference of the CUSC Transmission Access Standing Group were modified (Appendix B) and the Group has considered some of the issues identified in the SO Incentive Scheme Document. This report is the product of the process

### **2. STANDING GROUP PROCESS DETAIL**

#### **2.1. Terms of Reference and membership**

*See Appendix B*

#### **2.2. Group Process**

*See Appendix C*

#### **2.3. Related Matters**

- *References to TCMF, BETTA, BSC P80/87, CUSC 43/48, EU directive and proposals for cross border, congestion charging, G/L harmonisation.*
- *General disclaimer that Standing Groups do not propose CUSC amendments.*
- *Breach and competing access dealt with to reflect Cap043 and hence generating parties. However, attempted to provide solutions that would work in the event that firm exit capacity is introduced.*
- *ANYTHING ELSE ANYONE CAN THINK OF?*

### **3. STANDING GROUP WORK PROGRAMME**

Three elements were identified to the work programme:

- *Big Picture issues: definition of exit capacity, roles of DNO and supplier in managing exit capacity, possibility of firm and non-firm exit capacity existing alongside each other.*

- Competing Access
- Breach of Access

The elements were progressed together

#### **4. COMPETING ACCESS**

##### **4.1. Statement of the problem**

When any two separate applications are made to seek new or increased connection capacity to the NGC transmission system at approximately the same time, even if they seek connection at geographically widely distant points, they are potentially in competition. This arises because of the interconnected nature of the transmission system and its finite capacity. Competition can arise because parties are seeking new connections, or seeking to increase their existing firm commercial right of access beyond the level currently agreed with NGC, or a mix of the two. NGC has a licence obligation (*insert ref*) to offer connection and access terms to all the new and upgrading parties. Therefore NGC needs a fair, practical and efficient means within the CUSC to deal the issue of competing requests for transmission entry capacity whilst still satisfying its licence requirement to (*insert ref*) to 'develop the transmission system in a cost effective way' (*insert correct quote*).

##### **4.2. Options for Solution**

##### **4.3. Current Position and issues**

- There is a queuing approach for additional capacity
- Competing parties are informed at time of offer to second party
  - Party's applications for other approvals (e.g. Section 36) are made public, but this is usually well after connection offers have been made (*Richard please check timings*)
- First party to sign gets a preferred connection date
- Second party to sign gets a revised offer with an alternate date (later than the preferred connection date)
  - Competing parties may wish to cooperate in reaching a mutually acceptable 'third way'
- Currently there is no involvement of any existing connectees
  - Release of entry capacity by existing power station sites may be a useful alternative to new asset investment
- TNUOS charges payable

##### **4.4. Option 1 'Bulletin Board'**

- A small evolutionary change from status quo that would probably enhance efficiency of current process
- All new applications are made public at time of application
  - Existing parties who might release entry capacity would become aware as well
- Enables competing projects to be aware of position from earlier stage
- Would enable National Grid to consider position if both go ahead from the outset
- Allows users to identify unfacilitated trading opportunities
- Still a queuing system
  - Equity demands that the relative positions in the queue remain
    - First applicant gets first offer.
- Public domain is a double-edged sword
  - Might encourage spoiling applications
    - Impossible to remove all risk of this
  - But substantial financial (but fair!) and resource commitment required to develop a proposal

#### 4.4.1. Pros and Cons

- GenCo1
  - Retains the advantage of being first: still a queue
  - Gives clarity of understanding level of activity in an area
- GenCo2
  - Knows of other applicant, but can proceed with full knowledge
  - If believes can't compete, application may not be made
  - Gives option of seeking a 'third way', or doing a deal with an existing connected party.
- Pros
  - Applications made/withheld with full knowledge
  - Could lead to more efficient use of resources
  - Could encourage trading offers (dependent upon User requirements)
- Cons
  - May encourage spoiling applications
  - May push people to apply late against required construction lead times
- Issues
  - Confidentiality surrounding each stage of application
    - What information should be published
      - Size of plant
      - Location (node, zone etc)
  - 1MW at node 1 not equal to 1MW at node 2

#### 4.5. Option 2 'Facilitated Trade'

- A further evolutionary stage from status quo
- National Grid would identify existing users whose rights are tradable with a potential new user
- The extent of the trade off would also be identified, i.e. how many MW at one site equivalent to how many at another
  - NGC needs to be involved to determine 'exchange rate' and any other trade issues
  - Snapshot possible, but trade always need to be done individually
- Under Option One this could be an open activity undertaken at the time of application; under the current arrangements it would either have to wait until the agreement was completed or would have to undertaken on a confidential basis
- New user would then have the opportunity to purchase existing rights off an existing user. The value of such rights would be the value to the new user of avoiding the queue (i.e. arising from the time value of money from the income stream starting earlier, and from the developers' (and bankers'!) expectations of change in risks with time), not the value of the rights themselves, as TNUoS would still be paid
- NGC offer will be conditional upon parties agreeing terms
  - Would NGC need to see contract or rely on breach mechanisms in conditional offer?

#### 4.6. Other Issues

- Process is not frequent; 6 potentially competing applications over 2-3 years during the 'dash-for-gas'
- Process cannot be easily 'commoditised'
  - Capacity Exchange rates will vary profoundly between locations and with time

- Daily publication by NGC of a 'Transmission Access Opportunities Map or Matrix on a nodal or Zonal basis to inform access application decisions by generators is unlikely to be practicable
- Shallow connection policy and costs
  - Full costs of new connection are split between infrastructure and site specific ('plug model' just emphasizes this)
  - A deal between new connectee and existing (or other new player) only concerns value of shallow connection costs; infrastructure costs are borne elsewhere. Therefore, total costs of upgrading the network cannot be optimised
    - Trading fee will therefore mis-value the total costs of the new connection
- In event that firm exit rights can be defined, demand side (directly connected customers) may have a realistic part to play here

#### **4.7. Applicable Objectives**

- Bulletin Board and Facilitated Trade are both advances on the status quo with respect to the 'efficient operation of the system' (*insert correct quote*)
- What else?

### **5. BREACH OF ACCESS RIGHTS**

#### **5.1. Statement of the Problem**

Post CAP043 generators purchase a commercially firm right of access up to the value of their TEC. In the event that generators exceed their TEC they have breached their contractually firm right of access. What should be the consequences of such breach? Can access rights on demand side be defined so that breach becomes meaningful?

#### **5.2. Current Position**

- Breach of CEC or TEC is breach of CUSC and also breach of licence
- Remedy for breach of CUSC is termination of agreement or "do not do it again"
- Remedy for breach of licence by Ofgem can be 10% of turnover or loss of licence, i.e. 'nuclear' options
- Possible reinforcement via making exceeding rights a breach of the Grid Code but penalties the same as above

#### **5.3. Issues arising**

- Breach of firm access rights may or may not lead to any additional costs depending on amount of the state of the system and the nature of the breach
- TNUoS recovers costs on an equitable basis reliant on honest declaration of expected usage
- Sometimes an error zone may be useful
- Disconnection by NGC of generator (CAP48) may lead to compensation
- Demand side currently undeveloped, but likely to have choice of firm or non-firm exit capacity
- Simple 'penalty' is unlikely to be cost-reflective<sup>1</sup>

---

<sup>1</sup> Ofgem have apparently blessed a multiple of demand side UoS charges for a DNO (*Richard F can you enlighten me as to the cost-reflectivity argument here please*)

#### **5.4. Possible Way Forward**

- First issue to be considered is generator side; demand side needs to establish principle of rights first, but approach should be consistent with firm demand-side rights.
- Ideal solution:
  - Parties incentivised to purchase/declare honest TEC ex ante
  - Equity between parties
  - Remedies for breach are cost-reflective
- What is an appropriate commercial basis for breach of rights?
- Options for a commercial basis:
  - If no value can be ascribed to the right at the time and no implications for SO of breach by G then no penalty
    - Equity problem compared with those who declare TEC honestly ex ante
  - Extent of breach of TEC considered as non-firm rights,
    - No compensation if they are removed, although difficult to see how they could be
    - G pays TNUoS for actual use
    - G pays balancing services cost attributable to his action
      - Provided costs can be identified
  - 'Penalty' is levied that values consequences of breach by say, valuing any energy exported beyond TEC at zero in BSC
    - G also pays TNUoS for extra TEC (even in -ve zone)
    - Could have an error zone of say +2%, before penalty kicks in
- If commercial incentives are considered appropriate then who gets the revenues?
  - Additional costs excluded from SO Incentive cost base because NGC not expected to manage such unexpected effects and therefore shouldn't be judged on them
  - Additional BSUoS costs paid for by breaching party used to offset BSUoS for others
  - Additional TNUoS paid by breaching party recycled through K factor
  - Any other payments by breaching party are recycled to other parties.

#### **5.5. Other Issues**

- Does existence of firm + non-firm demand-side model allow meaningful concept of breach to be developed?
- Can costs arising be unambiguously allocated? If not then what is the basis for a cost-reflective approach?
- What happens if breach 'helps' system?

#### **5.6. Conclusions**

- Equity and orderly management of the system require incentives to avoid breach
- Current remedies are not cost reflective and range from minor 'name and shame' through to 'nuclear' loss of licence
- A cost reflective approach to breach will be difficult to unambiguously calculate and allocate
- Some options for 'penalties' for breach have been identified.

#### **5.7. Applicable Objectives**

- Facilitate efficient operation of the transmission system via:
  - Optimising use of system capacity
  - Encouraging short-term transparency and accuracy of usage of system capacity by generators (and demand-side, if developed)
  - What else?
- Facilitate competition between generators
  - Encourages equity in use of transmission system
  - What else?

## 6. BIG PICTURE ISSUES

In the next sections a number of larger issues are addressed:

- Definition of Firmness of access
- Treatment of exit capacity
- Roles of Supplier and DNO as Potential Access Managers
- Treatment of Interconnectors
- Duration of access

## 7. Definition of 'Firm' and Allied Attributes

In order to develop transmission access, it is essential to understand what is meant by Firmness, particularly as applied to the exit side.

Firm: Four essential features identified for firm contracts:

- There must be a pre-existing contractual relationship between the provider and the user
- Compensation should be payable in the event that no access is received by the user
- Commitment and Volumes must be defined before the event
- Volumes can only be taken up to the volume defined ex ante (maximum volume) and must be paid for

Time

- Sensible unit of time is Settlement Period - practical approach to unit pricing granularity

Payment

- Two options on payment. Either:
  - Pay for the entire volume contracted for; or
  - Pay up to the volume taken with the balance subject to a separate charge (which might be zero)

Compensation

- For compensation purposes unsupplied capacity could be measured by the failure to meet the contracted requirements of the User. The User should however have confirmed the need for that contracted capacity on the day. Need to find a way to demonstrate that contracted volumes have not been delivered to receive compensation - you don't know if it was deliverable until after it was delivered.
- Another way of looking at compensation would be take the view that NGC has been provided with sufficient income through the regulatory contract to provide an efficient system and meet security of supply requirements so that compensation for unsupplied demand was unnecessary. But "User pays" model difficult to reconcile with this approach.

Tradability

Tradability not an attribute of firmness, but rather firmness is probably a pre-requisite for tradability

## 8. Exit Capacity

Development of Transmission Access has, to date, not considered exit from the transmission system. Customers either have half-hourly metering (HHM) or not (NHHM). Some of the HHM customers have controllable load, as do some of the NHHM (teleswitched load). To date NHHM demand has been limited only by the physical capacity of the network. Suppliers estimate NHHM load, but its usage of the transmission system is paid for on the basis of outturn. It has not been firm (see above)

## **8.1. Firm Exit Capacity**

### **8.1.1. Why Firm Exit Capacity?**

- Enables compensation against network failure
- Provides cost certainty (incl. constraints) and risk management if longer term rights are available
- Tradability will enable within year adjustments and switching
- Parity and equity with generation

### **8.1.2. Attributes of Firm Exit Capacity**

- Initial allocation: Offered by NGC but take-up optional
- Entity acquiring rights: Supplier or directly connected customer (DCC)
- Volume of rights: As agreed up to limit of connection agreement
- New provision of rights: new/amended agreement with NGC
- Surrender of rights: Buy back by NGC as SO
- Duration of rights: annual or longer up to connection contract term
- Price of rights: TNUoS initially, plus market rates subsequently
- Trading of Rights: physical market
- Compensation for non-provision: similar to generation, CAP048 starting point
- Breach: similar to generation
- Consumption right expressed as MW in any half hour
- Defined within TNUoS/GSP zone
- Definition ex ante and annual, but could be shorter or longer

## **8.2. Non-Firm Exit Capacity**

### **8.2.1. Why Non-Firm Exit Capacity**

- Supplier can only forecast demand, not determine it precisely ex ante
- Supplier cannot control NHH demand except to physically-determined maxima, or via teleswitching-type technologies

### **8.2.2. Attributes of Non-Firm Demand**

- Initial allocation: Offered by NGC but take-up optional
- Entity acquiring rights: Supplier or directly connected customer (DCC)
- Volume of rights: Capped at physical limit of connection assets/network. Actuals known ex post
- New provision of rights: new/amended agreement with NGC
- Surrender of rights: No control possible by Supplier, so not meaningful concept
- Duration of rights: annual or longer up to connection contract term
- Price of rights: TNUoS
- Trading of Rights: physical market only at point of change of supplier
- Compensation for non-provision: what basis?
- Breach: beyond physical limits network operator will remove access, probably to more than one suppliers' customers
  - Impossible to achieve in short term for an individual customer
- Consumption right: expressed as MW in any half hour ex post measured
- Defined by TNUoS/GSP zone

- Definition ex ante cap (physical connection limit) and annual, but could be shorter or longer

## 9. Supplier as Access manager

Most Suppliers have HH and NHH metered customers across a number of gsp groups. It is likely they would have to have a portfolio that contained both firm and non-firm customers. The concept of firm exit capacity is novel and only a limited number of types of customers could easily be accommodated as firm.

- In principle Suppliers would choose how much firm and non-firm in any gsp group
- Firm access gives rights to compensation if rights are removed and obligations regarding breach. Therefore Firm rights must be verifiable.
- In practice a supplier would only be able have to nominate identifiable meter systems whose consumption can be verified on a settlement Period basis as firm.
- This suggests individual NHHM customers would be excluded. However, if a NHHM load can be teleswitched (i.e. controlled) and its aggregate demand known across, say a gsp group, could this be nominated as firm demand? **What do you think?**
- Supplier would nominate the remainder of its NHHM load as non-firm. It might also nominate HHM demand for which firmness confers no benefits

### 9.1. Assessment Against Applicable Objectives

- Facilitate efficient operation of the transmission system via:
  - Optimising use of system capacity
  - Encouraging short-term transparency and accuracy of usage of system capacity by suppliers
  - What else?
- Facilitate competition between suppliers
  - Encourages equity in use of transmission system
  - Enables differentiation on grounds of attitude to capacity risk
  - What else?

## 10. Distribution Network operator as Access Manager

DNOs need to know more about the future pattern of demand than Suppliers in order to plan and build it. They already contract with NGC for NGC Connection and are best placed to optimise contract for use of the rest of the network

- Pass-Through Option
  - DNO trades firm and non-firm access with NGC, based on aggregate of Supplier nominations for the gsp group
  - TNUoS charges are passed through
  - Suppliers can nominate firm and non-firm access to DNO as above
  - DNO has no risk/no incentive to manage access with NGC
- Incentivised Option
  - DNO trades firm access with NGC (or a greater proportion firm than he trades with Suppliers)
  - Suppliers can nominate firm and non-firm access to DNO as above
  - TNUoS charges may not be a simple pass-through, may be DNO incentivisation scheme

- DNO is incentivised to make more efficient investment in distribution, and to manage load around distribution network in an active way
- DNO is incentivised to ensure NGC make more efficient transmission investment

#### **10.1. Assessment Against Applicable Objectives**

- Facilitate efficient operation of the transmission system via:
  - Optimising use of system capacity
  - Encouraging short-term transparency and accuracy of usage of system capacity by suppliers via DNOs
  - What else?
- Facilitate competition between suppliers
  - Encourages equity in use of transmission system
  - Enables differentiation on grounds of attitude to capacity risk
  - What else?

### **11. Interconnections**

#### **11.1. Statement of the Problem**

The treatment of Interconnectors is difficult and can be argued to be more than the simultaneous allocation of entry and exit rights in a manner similar to generators and demand. How can they best be treated? A number of options were identified. This issue has to be developed consistent with the rest of the UK system and the EC proposals.

#### **11.2. Options for Solution**

Four possible models have been highlighted as means for dealing with Interconnectors:

- Transmission Company Interconnectors becoming transmission infrastructure – no TA charges
- Merchant Interconnectors with any infrastructure reinforcements kept within transmission infrastructure – no TA charges
- Interconnector Owners face TA charges but not Interconnector Users
- Interconnector Owners and Users pay TA charges

#### **How do we choose the best contender(s)?**

Common Attributes envisaged:

- Contracts for capacity would be one-way
- Interconnector access rights would automatically include Transmission access rights.
- Firm contracts up to the full capacity of Interconnector in each direction.
- Non-firm products would be available beyond the full capacity, contingent upon offsetting contracts in the opposite direction.
- No uncertainty of charges (however small or large) before capacity auctions.
- Access to the markets in all timescales.
- Capacity buyback (importing or exporting) operates only through the Interconnector Users once the capacity rights have been obtained and through the Interconnector Owner before the auctioning of those rights.

### **12. Duration of Access**

Access is currently purchased on an 'evergreen' basis. Holding and paying for a TEC of a given volume automatically entitles the holder to an option for the same volume (or less) in the following year. The option is exercised by agreeing to be subject to TNUoS. There are alternative approaches to determining duration:

- Fixed periods of prescribed start date
  - Periods of greater or less than one year
  - Periods that begin some prescribed date in the future
- **What advantages do parties see for options other than evergreen?**

### **13. Portfolio TEC**

- Generators may seek 'portfolio TEC' to mix firm and intermittent sources
- How do NGC know who held the rights at a particular point in time?
  - They need to ensure that (annual) TNUoS liability is paid

### **14.**

**Appendix A:** *Excerpt from SO Incentive final document quoting NGC's commitments re Transmission Access*

**Appendix B:** *TASG Terms of Reference and Membership*

**Appendix C:** *Group Process outline of meeting schedule and reports to CUSC Panel*