

**ASSESSMENT OF THE IMPACT OF THE
APPLICATION OF THE ENTRY CAPACITY
SUBSTITUTION METHODOLOGY TO THE MARCH
2010 QSEC AUCTION.**

MAY 2010

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1. EXECUTIVE SUMMARY.

Entry capacity substitution was first introduced in respect of the March 2010 Quarterly System Entry Capacity (“QSEC”) auction. This report assesses the impact of applying entry capacity substitution to this auction.

The entry capacity substitution methodology defines the processes by which substitution opportunities will be identified and assessed. It has been successfully applied to enable National Grid to release incremental entry capacity at the Barrow Aggregate System Entry Point (“ASEP”) without the need for additional funding. The methodology also enables Shippers to retain capacity at an ASEP without committing to purchasing that capacity. This opportunity, which protects capacity from substitution, was taken up by Theddlethorpe Shippers.

Section 3 of this report details the results of the January 2010 retainer window and the March 2010 QSEC auction as they relate to entry capacity substitution. The results show that:

- 97.83 GWh/d has been retained at Theddlethorpe for Gas Year Y+4.
- 30.91 GWh/d of incremental entry capacity has been released at Barrow from 1st January 2015.
- 30.91 GWh/d of unsold non-incremental obligated entry capacity has been substituted from Teesside, at an exchange rate of 1:1, to meet the need for incremental entry capacity at Barrow.
- The substitution of entry capacity has led to the avoidance of £1.21m/year costs (excluding indexation), for 5 years, through the non-application of the revenue driver at Barrow. These costs would otherwise have been passed on to Shippers through transportation charges.

2. INTRODUCTION

National Grid Gas plc (“National Grid”) in its role as holder of the Gas Transportation Licence in respect of the NTS (the “Licence”) is required, in accordance with Standard Special Condition C8D paragraph 10(a) of the Licence, to prepare an entry capacity substitution (“ECS”) methodology, in such a manner that is necessary to facilitate the achievement of the entry capacity substitution objectives (the “objectives”). National Grid is also required to submit to the Authority, for approval, a statement setting out the methodology.

Paragraph 10(b) of the same condition requires National Grid to use reasonable endeavours to substitute entry capacity in accordance with the approved ECS methodology.

On 7th December 2009 the Authority gave approval to National Grid’s proposed ECS methodology statement¹. In their decision letter the Authority stated that they expect National Grid to:

- keep the methodology under review; and
- make public a report setting out its assessment of the impact of substitution following initial application of the methodology.

National Grid intends to undertake a thorough review the ECS methodology in accordance with paragraph 10(e) of Special Condition C8D later in 2010.

This report presents National Grid’s assessment of the impact of entry capacity substitution following its initial application in the March 2010 QSEC auction. In particular, it sets out the extent to which National Grid believes the objectives were achieved. It also provides an initial, high level, review of the requirement for any potential future development.

In addition to this introduction this report consists of three main sections:

- **Section 3** summarises the results of the March 2010 Quarterly System Entry Capacity (“QSEC”) auction and related processes;
- **Section 4** reviews the extent to which the objectives were achieved; and
- **Section 5** is used to review the potential for further developments that might be expected to improve the ability of National Grid to better meet the intent of the objectives. A more comprehensive review will be undertaken later in 2010. At this time, National Grid has identified no requirement for such developments.

3. MARCH 2010 QSEC AUCTION RESULTS

The ECS methodology statement approved by the Authority on 7th December 2009 introduces the concept of a “retainer”. A retainer can be taken out by any Shipper in respect of any Aggregate System Entry Point (“ASEP”) in order to exclude the retained capacity from the possibility of being substituted to another ASEP. This provides Shippers with a lower (possibly zero) cost alternative to buying capacity if

¹ The approval letter and approved ECS methodology statement can be found on National Grid’s website at: <http://www.nationalgrid.com/uk/Gas/Charges/statements/transportation/ecms/>

the Shipper is not in a position to make a full commitment. The Authority approved UNC modification proposal 0265: "Creation of a NTS Entry Capacity Retention Charge within the Uniform Network Code" and it was implemented on 18th December 2009. This modification enabled National Grid to make available entry capacity retainers, at ASEPs where capacity was not already sold out, in advance of the March 2010 QSEC auction.

The retainer window was open for two days on 25th and 27th January 2010. The following retainers were obtained.

Retainers granted			
ASEPs	Gas Year	Retained Quantity (kWh/day)	Retention Charge (p/kWh/day)
Theddlethorpe	Y+4 Oct 2013 to Sept 2014	97,830,000	0.2922

As a result of the retainer at Theddlethorpe, an additional 97.83 GWh/day in excess of the sold quantity was excluded from substitution. The Shipper(s) taking the retainer will be refunded the retainer charge if they, or another Shipper, subsequently obtains capacity for the period October 2013 to September 2014. Precise details of the application of refunds for retainer charges are provided in the ECS methodology statement.

Incremental entry capacity release resulting from the March 2010 QSEC auction is provided in the table below.

Incremental Obligated Entry Capacity Released		
ASEP	Quantity (kWh/day)	Release Date
Barrow	30,910,000	1 st January 2015

Incremental entry capacity signals received in respect of Barrow satisfied the 50% NPV test for release of incremental entry capacity (as detailed in the Incremental Entry Capacity Release ("IECR") methodology statement²).

In accordance with paragraph 10(b) of Special Condition C8D of the Licence, the approved entry capacity substitution methodology was applied to determine whether the incremental capacity release could be satisfied without the need for investment. As a result it was identified that the incremental capacity could be satisfied through the substitution of unsold non-incremental obligated entry capacity as detailed below.

Non-incremental Obligated Entry Capacity Substituted			
Donor ASEP	Quantity (kWh/day)	Exchange Rate	Substitution Date
Teesside	30,910,000	1:1	1 st January 2015

The final exchange rate (1:1) has been calculated on the basis that the proposed substitution will not result in any material increase in entry capacity buyback costs (see 4(iv) below) based on the supply scenario used. It should be appreciated that due to time constraints on the process, National Grid did not, and would not expect

² IECR version 9.3 can be found at <http://www.nationalgrid.com/uk/Gas/Charges/statements/transportation/iecr/>

to, assess the impact of the proposed substitution under all possible supply and demand scenarios.

As a result of the substitution of capacity from Teesside to Barrow the incremental obligated entry capacity has been released as “non-incremental obligated entry capacity” rather than “funded incremental obligated entry capacity”. When capacity is released as non-incremental obligated entry capacity National Grid does not receive additional allowed revenue.

Hence the ECS methodology has resulted in industry avoided costs which would have been passed to Shippers through transportation charges and may then have been passed on to consumers.

The avoided costs equate to:

- **£1.21m per year** (excluding indexation) for five years through application of the revenue driver; plus
- Annual allowed revenue, from year six, through application of a rate of return on the avoided investment (assuming this would have been economically and efficiently incurred). As substitution has been applied to the incremental capacity request a figure for the avoided investment has not been determined.

4. ACHIEVEMENT OF OBJECTIVES

The Licence requires the ECS methodology to facilitate the achievement of the objectives. These objectives are detailed in Standard Special Condition C8D paragraph 10(c) of the Licence.

The entry capacity substitution objectives are:

- (i) ensuring that entry capacity substitution is effected in a manner consistent with the licensee’s duties under the Act and the standard, Standard Special and Special Conditions, in particular the duty to develop and maintain an efficient and economical pipeline system;
- (ii) in so far as is consistent with (i) above, ensuring that entry capacity substitution is effected in a manner which seeks to minimise the reasonably expected costs associated with funded incremental obligated entry capacity, taking into account the entry capacity that Shippers have indicated they will require in the future through financial commitment to the licensee;
- (iii) ensuring that entry capacity substitution is effected in a manner which is compatible with the physical capability of the pipeline system to which the licence relates;
- (iv) in so far as is consistent with (i) above, avoiding material increases in costs (including entry capacity constraint management costs in respect of obligated entry capacity previously allocated by the licensee to relevant Shippers) that are reasonably expected to be incurred by the licensee as a result of substituting entry capacity; and
- (v) in so far as is consistent with (i), (ii) and (iii) above, facilitating effective competition between relevant Shippers and between relevant suppliers.

As can be seen from Section 3, the ECS methodology was successful in enabling incremental entry capacity to be released without the need for investment. It also allowed Shippers to protect capacity, by making a financial commitment, from being substituted to another ASEP.

National Grid believes that it has, through application of the entry capacity substitution methodology:

- (i) effected substitution in a manner consistent with its duties under the Act and the Licence. National Grid believes that the substitution of capacity from Teesside is consistent with the obligation to develop and maintain an economic and efficient pipeline system. This is because:
 - the unsold capacity substituted from Teesside was not valued by Teesside Shippers (they did not take out retainers or buy capacity):
 - the increased obligation at Barrow does not, when combined with the decreased obligation at Teesside, compromise the ability of National Grid to meet its wider statutory and licence obligations.
- (ii) effected substitution in a manner which minimised the expected costs associated with funded incremental obligated entry capacity. Entry capacity substitution has allowed incremental entry capacity to be released at Barrow without any expected costs associated with funded incremental obligated entry capacity. In addition, through the application of the approved ECS methodology, account was taken of the entry capacity that Shippers have indicated, through financial commitment, they will require in the future. This allowed the exclusion of both sold and retained capacity from the substitution process.
- (iii) ensured that entry capacity substitution was effected in a manner which is compatible with the physical capability of the NTS. Through application of network analysis, it was identified that the physical capability of the NTS is sufficient to accommodate an increase in capacity, and associated gas flows, of 30.91GWh/day at Barrow where there is a corresponding decrease, as a result of substitution, in the quantity of obligated entry capacity at Teesside. Hence, National Grid believes that substitution of capacity from Teesside to Barrow will result in better use of NTS.
- (iv) avoided material increases in costs. The application of the approved methodology identifies system capability limits such that any substitution proposal that would, in the absence of low probability circumstances, increase costs, e.g. entry capacity constraint management actions, will be rejected. An increased (or decreased) risk in costs being incurred was not identified for the proposed substitution under which National Grid has accepted additional obligations at Barrow without additional funding.
- (v) increased competition between Shippers. The introduction of entry capacity substitution has extended competition for capacity from individual ASEPs to across ASEPs. When Shippers decide not to obtain unsold entry capacity at a particular ASEP they have to consider the risk of other Shippers obtaining that capacity in respect of the same ASEP or via substitution at a different ASEP. This is particularly relevant for single Shipper ASEPs.

5. POTENTIAL FOR FURTHER DEVELOPMENT OF THE ENTRY CAPACITY SUBSTITUTION METHODOLOGY

The March 2010 QSEC auction has demonstrated both the success of the retainer approach and the substitution policy. However, there was little overall activity and the methodology has not been tested by numerous, or substantial, incremental capacity releases. Hence National Grid believes that it would be inappropriate to make major changes until at least another QSEC auction has occurred.

Notwithstanding this view, National Grid is concerned over the short amount of time available, through timetables defined in the Licence and UNC, in which to complete the substitution analysis prior to the results being submitted to the Authority for approval. Even the small incremental signal received at the Barrow ASEP required significant effort to complete the substitution analysis. It has become apparent to National Grid that if a more onerous signal (e.g. for a greater quantity or where the analysis identifies constraints), or a combination of more onerous signals, had been received the necessary analysis would have taken longer to complete than current timescales allow.

As a consequence of the application of the substitution methodology following the March 2010 QSEC auction National Grid believes that it is essential that attempts are made to identify opportunities to simplify the process required to assess entry capacity substitution proposals.

During development of the approved ECS methodology statement discussions were held on the appropriateness of a cap on capacity exchange rates. It was decided that a cap of 3:1 should apply as a transitional rule to give a “soft-landing” to the new regime. It was expected that, subject to assessment of substitution results, this cap would gradually be removed. However, for the reason given above National Grid believes that the transitional rule should remain in place for another year.

Prior to proposing the approved ECS methodology statement in September 2009 National Grid considered alternative methodologies. The main difference between these alternatives was the way in which capacity could be excluded from possible substitution. One of the alternatives was the “two-stage auction”. Under this potential methodology:

- The QSEC auction would be shortened,
- National Grid would identify and publish the size and location of any incremental capacity requests that pass the NPV (as described in the Incremental Entry Capacity Release methodology statement);
- Shippers could assess the risk of “their capacity at their ASEP” being used for substitution;
- A second stage of the QSEC would open where only existing capacity could be obtained (i.e. incremental capacity cannot be triggered);
- Shippers could purchase capacity that they require, that they perceive to be threatened by substitution.

National Grid believes that it would be premature to reconsider the introduction of a two-stage auction to accommodate entry capacity substitution at this time because:

- The justification for not proposing the two-stage auction is still valid. National Grid's opinion is that the most likely outcome to the current review of credit arrangements will include a change to the QSEC auction timetable. These possible changes will make it infeasible to hold two-stages for the QSEC auction.
- No problems have been identified with the approved, retainer based, methodology which successfully met the objectives.
- A variation on the two-stage auction is available and has been followed in 2010 by some Shippers. As previously suggested by National Grid, Shippers monitored QSEC bidding activity and observed (as evidenced by several Shipper enquiries) the potential for substitution in response to the Barrow signal. These, and other, Shippers were able to bid for capacity at possible donor ASEPs in the next bid window.

6. SUMMARY

- National Grid believes that it has fully complied with the entry capacity substitution obligations through the application of entry capacity substitution in accordance with the ECS methodology statement issue v1.0.
- National Grid believes that the ECS methodology applied for QSEC 2010 successfully met the ECS objectives and resulted in avoided costs of £1.21m per year (excluding indexation), for 5 years.
- No requirements for fundamental changes to the methodology have been identified at this point in time. However, National Grid will look for process simplifications that could reduce the amount of substitution analysis required.