

Quarterly System Entry Capacity (QSEC)



March 2014

Introduction

- Given the long term nature of QSEC National Grid is concerned that all shippers, whether intending to bid or otherwise, take appropriate steps to inform themselves before the 2014 auction opportunity
- This material is intended to be a small step in assisting this

Introduction

■ **Entry Capacity Auctions – Our Role**

- Schedule auctions in accordance with UNC
- Issue Invitation Letters in accordance with UNC, Licence, Transportation Charges Statement and Entry Capacity Substitution Methodology Statement
- Allocate/Reject bids in accordance with UNC, Licence, Incremental Entry Capacity Release Methodology
- Publish results – Gemini/National Grid Website
- General Auction (operational) related queries – Capacity Auction Teams, National Grid

Introduction

- What we can do:
 - Try to answer operational queries
 - May give pointers on issues to consider

- What we can not do:
 - Give advice on bidding strategy

Introduction

- In line with current UNC obligations National Grid plans to complete the 2014 QSEC auction (bidding) by the end of March 2014
- Invitation letter issued a minimum of twenty eight calendar days before the first annual QSEC invitation date (first bid window)

Introduction

- This information is intended to be a small step in assisting potential bidders – please do not rely solely on any information/data contained within this presentation
- You should refer to the 2014 QSEC auction invitation letter published by National Grid before you intend to bid

Introduction

- **Section 1** Overview of Entry Capacity Regime
- **Section 2** Summary of QSEC Auction, Retainer Process and Surrender process
- **Section 3** Incremental Release – NPV Test
- **Section 4** The IECR Model
- **Section 5** Gemini & Website Overview
- **Section 6** Useful Contact Information

Section 1



Overview of Entry Capacity Regime

TPCR

- 42 month default lead-time
 - (with permits/accelerated release incentive)
- Withhold 10% baseline for shorter-term auctions
- Cap on incremental buyback price (0.52p/kWh/day)
- Trade/Transfer obligation on National Grid
- Substitution obligation on National Grid

Permits/Accelerated

- Default lead time for incremental entry capacity release is 42 months (e.g. for Mar'14 obliged to make incremental available from Oct'17)
- Concept of 'permits' to allow lead time to be varied
- By 'using' a permit the lead time can be extended and permit 'earned' by agreeing to deliver earlier
- A level of permits which allows up to 7200 GWh of capacity to be delayed for up to 1 month (over 5yr PCR period – potentially reviewed in 1yr)
- QSEC invitation letter will indicate where >42 month lead time required and where we will consider <42 month incremental release

Permits/Accelerated cont...

- National Grid can consider separate ‘accelerated release’ scheme for advancement of incremental release (no difference for shippers – still secure firm entry capacity)

Cap on Incremental Buy-back price

- Licence obliges National Grid to use reasonable endeavours to not pay a unit cost >0.52 p/kWh in respect of entry capacity constraint management costs
- Applicable to incremental obligated entry capacity released for sale on or after 1 Apr 2007, up to that time that the capacity has first been deemed to be physically delivered*

*Physically delivered defined when a) the licensee is first able to accept gas properly tendered for delivery by any gas shipper or b) the Authority has deemed (in response to a request made by a relevant shipper or the licensee) that the capacity has been delivered

Substitution Obligation

- National Grid will undertake substitution processes during 2014 QSEC auction
- Substitution Methodology – approved by Ofgem
- Process of substituting unsold baseline capacity from one or more Aggregate System Entry Point (ASEP)'s to allow release of incremental capacity at another ASEP
- Results in a permanent substitution of capacity
- Consider substitution prior to investment (deemed efficient process)

Trade/Transfer Obligation

- Process of transferring unsold obligated capacity from one ASEP to satisfy demand for firm capacity at another (transfer)
- Process of transferring sold firm capacity from one ASEP to satisfy demand for firm capacity at another (trade)
- Rolling Monthly Transaction period for enduring Trade/Transfer process began for August 2008 capacity onwards
- The Entry Capacity Transfer and Trade Methodology Statement (version 6.0) is available on the National Grid website via www.nationalgrid.com/uk/Gas/Charges/statements/

Section 2



Summary of QSEC 2014 Auction and Retainer Process

Firm System Entry Capacity Definition

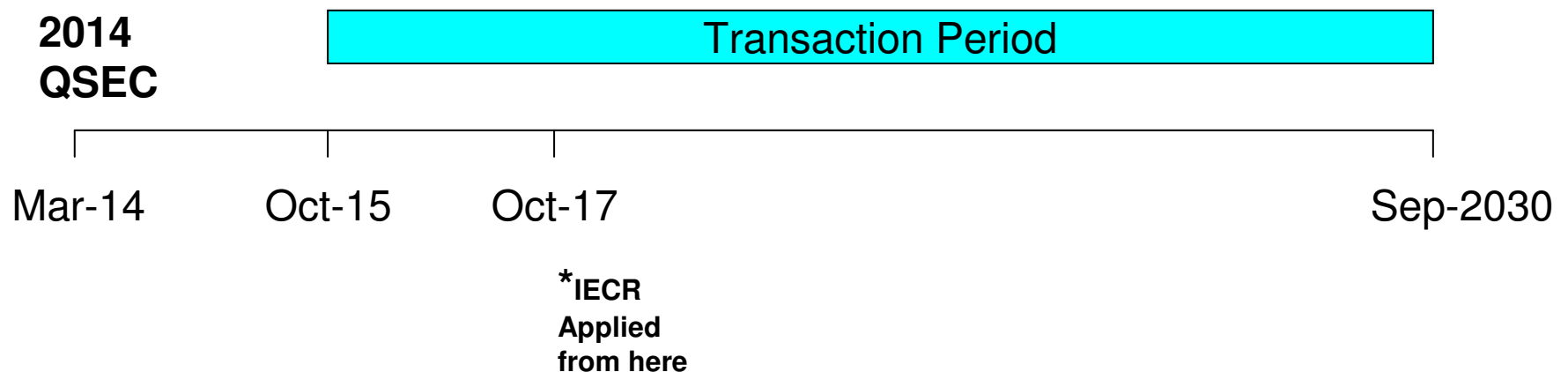
- Entry Point Specific
- Daily Access Right
 - No Within-Day Profile
- Specified Maximum Quantity
 - Overrun Charge if Flow More at the end of the Gas Day
- Firm Product
 - National Grid Buys-Back if Necessary
 - Shipper Pays Regardless of Use

Minimum Quantity Offered

- Licence Driven
- Long Term Auctions (Capacity Year +2 to CY+16 inclusive)
 - 90% of NTS Baseline plus previously offered unsold Incremental Obligated
- Shorter Term Auctions
 - Unsold Obligated capacity, 10% Withheld Capacity (plus unsold previously offered Incremental Obligated)

Firm System Entry Capacity Definition

- Capacity offered for 1-Oct-15 to 30-Sep-30
- Capacity offered in 3 month strips known as Sub-Transaction periods (or quarters)
- 42 month lead time (IECR applied from Oct'17)



Surrender window

- To bring the UK in line with Europe, and following modification 449, there will now be a window so users will be able to surrender previously allocated Firm Entry Capacity
- Capacity will only be able to be surrendered in quarterly sub transaction periods
- The surrender invitation letter will be published by the 27th January
- The window will be open on each business day, between 8:00 and 17:00, starting on the 3rd February until the 7th February inclusive

Substitution Methodology

- The Entry Capacity Substitution Methodology Statement (ECS) (version 3.2) is available on the National Grid website via <http://www2.nationalgrid.com/UK/Industry-information/Gas-capacity-methodologies/Entry-Capacity-Substitution-Methodology-Statement/>
- Produced in compliance with the obligation in paragraph 10(a) of Special Condition C8D
- This methodology is applicable in respect of capacity released in the QSEC auctions

Substitution Methodology - Retainers

- Users will be able to exclude capacity at potential donor ASEPs from being treated as Substitutable Capacity without having to buy or be allocated the capacity. To do this Users are able to take out a 'retainer'. Capacity retainers are described in paragraphs 27 to 32
- A retainer reserves capacity at an ASEP for any User to obtain at a later date through either a QSEC or an Annual Monthly System Entry Capacity (AMSEC) auction(s).

Substitution Methodology – Retainer Invitation

- Retainer Invitation Notice published on the National Grid website via <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/capacity/entry-capacity-auction/>

The screenshot shows the National Grid website in a Windows Internet Explorer browser. The page is titled 'Entry capacity auction' and features a search bar and navigation menu. The main content area is titled 'Entry Capacity Auctions' and includes a 'Criteria' section with dropdown menus for 'Auction Type' (Quarterly System Entry Capacity), 'Report Type' (Invitation Letter), 'From Year' (2012), 'From Month' (November), 'To Year' (2014), and 'To Month' (December). A 'Submit Query' button is located below the criteria. Below the criteria is a 'Reports' section with a table of reports.

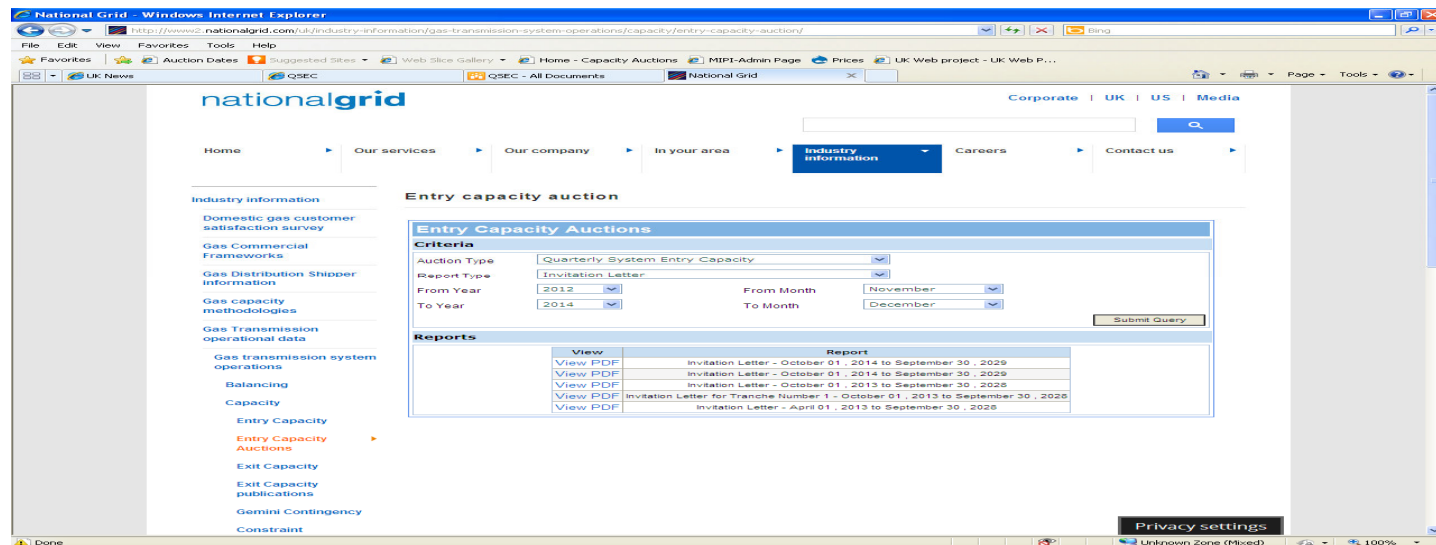
| View | Report |
|--------------------------|---|
| View PDF | Invitation Letter - October 01, 2014 to September 30, 2029 |
| View PDF | Invitation Letter - October 01, 2014 to September 30, 2029 |
| View PDF | Invitation Letter - October 01, 2013 to September 30, 2028 |
| View PDF | Invitation Letter for Tranche Number 1 - October 01, 2013 to September 30, 2028 |
| View PDF | Invitation Letter - April 01, 2013 to September 30, 2028 |

Substitution Methodology – Retainer Invitation

- Key points:
 - Substitutable Capacity (kWh/day) per ASEP is published in table 1
 - Terms and Conditions are published in appendix 3
 - T&C acceptance proforma is published in appendix 1
 - Retainer application form is published in appendix 2
- Capacity retainer windows will be open 08:00 to 17:00 on both 21st and 23rd January 2014
- Users able to submit retainer applications during the windows via fax to +44 (0)1926 654059

Substitution Methodology – Retention Information

- By 8pm on both 21st and 23rd January aggregate results will be published via the National Grid website:



- For each ASEP where one or more retainers has been granted:
 - The aggregate quantity covered by those retainers
 - The adjusted maximum retainer quantity

Substitution Methodology – Retention Charges

- A NTS Entry Capacity Retention Charge shall apply to any retainer agreement
- The Gas Transmission Transportation Charging Statement is published via <http://www2.nationalgrid.com/UK/Industry-information/System-charges/Gas-transmission/Charging-Statements/>
- In accordance with the Gas Transmission Transportation Charging Statement a charge rate of 0.2922p/kWh applies to all granted retainers at all ASEPs
- The retention charge will be payable via an ad-hoc invoice raised within two months of the QSEC auction allocations being confirmed; i.e. in July for a March auction

Substitution Methodology – Retention Charge Refunds

- A retainer is intended to retain capacity at an ASEP for Users to obtain at a later date
- If retained capacity is subsequently booked at the ASEP where the retainer was taken out, the charge may be refunded. Conversely, in the event that the retained capacity is not obtained later the charge would not be refunded
- Capacity retention charge refunds are described in paragraphs 46 to 54 of the ECS

Substitution Methodology – Process for Substitution Analysis

- Where an incremental signal has been received analysis is undertaken to determine what exchange rate would be required to satisfy the incremental capacity request without the need for investment
- Capacity substitution will be determined by assessing the flow patterns that can be accommodated by the NTS; i.e. without increasing the risk of capacity constraint management actions being required
- The process for substitution analysis is published in appendix 2 of the ECS

QSEC – Uniform Network Code Obligations

- Prior to the auction date:
 - Publish the reserve and incremental prices 60 days before the first day of the auction.
 - Published by the Transmission Charging & Revenue team. See the Statement of Gas Transmission Transportation Charges' published in October 2013.
 - Invitation issued 28 days before the first day of the auction and specifies information in line with UNC Section B 2.2

QSEC Auction Invitation Letter – Content

- The QSEC auction invitation letter includes:
 - The dates of the interim bid windows
 - The available NTS Entry Capacity for each ASEP (kWh/Day)
 - Baseline at reserve price
 - Incremental NTS Entry Capacity
 - The reserve price for each ASEP (p/kWh/Day)
 - The incremental step prices for each ASEP (p/kWh/Day)

QSEC Process

- Demand driven price
- 10 business day bid window (interim bid windows)
- Bids posted / modified / withdrawn 08:00 to 17:00 each day
- Auction can close early if prices stabilise
- National Grid publishes up to 21 price steps at each ASEP
- Shippers bid volume

QSEC Bid Capture Rules

- Shipper set-up validation (shipper preferences)
- Min qty \geq 100,000 kWh
- Bids at higher price must have lower or equal volume to those at lower prices

QSEC Interim-bid-window processes

- Information published after 17:00 each day:
 - Aggregate bid quantities at each price step for each quarter and ASEP
 - The prevailing Stability Group for each ASEP/quarter.

QSEC Stability Measure

- QSEC auction can close early if Stability Groups remain unchanged between interim bid windows
- If the Stability Group changes 4 times or less between two bid windows at any quarter/ASEP combination then the auction has reached stability and will close. Users will be notified in this event. (UNC TPD B2.2.19)

Price Steps & Quantities

- Baseline Defined in Licence
- Price Step (P_0) - Unsold 90% Baseline + any unsold obligated incremental
 - From Transportation Model
- Price Steps (P_1 to P_{20}) – Incremental capacity available
 - From Transportation Model
 - Up to 150% of baseline capacity
- Incremental prices for each (P_1 to P_{20}) are based on the long run incremental cost of providing additional capacity above obligated level

QSEC Auction Summary – Allocation Rules

- Where demand is less than or equal to supply at price step P0 all bids will be allocated in full.
- In respect of any ASEP where a quantity of incremental capacity is demanded, National Grid will determine the net present value (NPV) of the revenue from bids for the incremental capacity (based on relevant cleared price for each quarter)
- Determine supply volume. Actual Available NTS Entry Capacity – UNC TPD Section B 2.6.5.
- If aggregate bids exceed supply volume at supply level price step, move up demand curve to find first price step where demand is \leq to supply level (this is the cleared price)
- Pro-ration occurs at P20 if aggregate bids at P20 level exceed supply level

Allocation Exceptions

- If the total bid quantity allocated is less than the minimum bid quantity demanded then the bid will be rejected.
- If all bids at a price level are rejected due to (i) above then move down a price level and apply allocation rules again.
- The difference between the allocations at the allocation price level and the available capacity at the available supply price level is identified as Unsold Capacity for each ASEP and Sub Transaction Period.

At Baseline, Demand Less Than Supply

| Supply | | Demand | |
|-----------------|----------------|---------------|------------------------|
| Available (kWh) | Price Step | Price (p/kWh) | Max Bid Capacity (kWh) |
| 1532 | P ₅ | 0.0229 | 1263 |
| 1494 | P ₄ | 0.0222 | 1223 |
| 1456 | P ₃ | 0.0214 | 1286 |
| 1418 | P ₂ | 0.0212 | 1318 |
| 1380 | P ₁ | 0.0204 | 1341 |
| 1342 | P ₀ | 0.0198 | 1341 |

Cleared Price = P₀

**All bidders pay
0.0198p/kWh**

**Allocation =
1341kWh/day**

Unsold = 1kWh

At Baseline, Demand Exceeds Supply

Supply

Demand

| Available (kWh) | Price Step | Price (p/kWh) | Max Bid Capacity (kWh) |
|-----------------|----------------|---------------|------------------------|
| 1532 | P ₅ | 0.0229 | 1223 |
| 1494 | P ₄ | 0.0222 | 1286 |
| 1456 | P ₃ | 0.0214 | 1386 |
| 1418 | P ₂ | 0.0212 | 1471 |
| 1380 | P ₁ | 0.0204 | 1498 |
| 1342 | P ₀ | 0.0198 | 1596 |

Cleared Price = P₄

**All bidders pay
0.0222p/kWh**

**Allocation =
1286kWh/day**

Unsold = 56kWh

QSEC Auction Summary – Post Allocation Reporting

- National Grid allocate QSEC bids no later than two months following the date of auction closure, after which:
- Will notify Users (within Gemini) of
 - Accepted quarterly capacity bids
 - Amount of Quarterly NTS Entry Capacity which the User is registered as holding

QSEC Auction Summary – Post Allocation Reporting

- Publish to all by Entry Point and Sub Transaction period the following:
 - Volume of entry capacity allocated (baseline and incremental)
 - The relevant clearing price
 - Total amount of revenue to be derived
 - Highest price accepted
 - Lowest price accepted
 - Weighted average price accepted
 - The number of users that submitted successful bids
 - The amount of obligated capacity which remains unsold

Section 3



Incremental Entry Capacity Release – NPV Test

Published Information

- Available from the website
 - <http://www2.nationalgrid.com/UK/Industry-information/Gas-capacity-methodologies/Entry-Capacity-Release-Methodology-Statement/>
- IECR Methodology Statement
 - V12.0 effective from 1st January 2014
- IECR Model
 - Published on a best endeavours basis*
 - Allows shippers to conduct “what if” scenarios
 - The model is provided voluntarily
 - We may amend the model if we consider it necessary to conform to Licence / UNC and reserve the right to do so

* We do not keep the version on the website continually up to date. It is retained there for assistance and updated in time for each auction and in line with latest changes. In particular the model that is published might not be the one that National Grid uses to assess incremental signals.

IECR Methodology

The basic outline of the IECR methodology is a simple one:

- Identify if a possible trigger level exists. This is the 1st quarter where the aggregated bids at a price step match or exceed the quantity on offer above the base quantity.
- Observe the incremental bid quantities in the subsequent 31 quarters and allocate a quantity in each quarter at the lowest price step where demand is less than or equal to the trigger level quantity being assessed.

IECR Methodology (cont.)

- Note the clearing price and calculate the associated incremental revenue for each quarter.
- Conduct the NPV test across the revenue received in all 32 quarters (assuming at least 8 of the 32 quarters contain incremental bids) to determine if obligated incremental entry capacity will be released.

IECR Worked Example

- Sample data used is from NPV example in IECR Methodology.
- Step P_3 is highlighted (130GWh) as this will be the example trigger level.

| Available (GWh) | Price Step | Price (p/kWh/day) | Estimated Project Value (£m) |
|-----------------|------------|-------------------|------------------------------|
| 150 | P_5 | 0.06 | 20 |
| 140 | P_4 | 0.05 | 16 |
| 130 | P_3 | 0.04 | 12 |
| 120 | P_2 | 0.03 | 8 |
| 110 | P_1 | 0.02 | 4 |
| 100 | P_0 | 0.01 | 0 |

IECR (1) - Identify a Possible Trigger Level

- For each quarter, the trigger level is the highest price step where demand \geq supply (i.e. aggregated bids \geq offered quantity above p_0)
- This definition assumes that the bid quantities will **descend** as the price steps increase.
- Any incremental signals received before October 2015 will not be tested unless early release permits have been noted for an ASEP in the invitation letter.

IECR (1) - Identify a Possible Trigger Level

- The following table contains bids received for a selection of quarters Q1 and Q2 ignored as they contained no trigger points (Q3 contains the first trigger point).
- Identify the highest price step for which demand \geq supply.

| Available (GWh) | Price Step | Price (p/kWh/day) | Q3 | Q4 | Q5 | | Q9 | | Q34 |
|-----------------|----------------|-------------------|-----|-----|-----|-----|-----|-----|-------------------|
| 150 | P ₅ | 0.06 | 120 | 120 | 110 | ... | 100 | ... | 100 |
| 140 | P ₄ | 0.05 | 120 | 120 | 110 | ... | 100 | ... | 100 |
| 130 | P ₃ | 0.04 | 130 | 130 | 120 | ... | 100 | ... | 100 |
| 120 | P ₂ | 0.03 | 135 | 135 | 120 | ... | 110 | ... | 100 |
| 110 | P ₁ | 0.02 | 140 | 135 | 130 | ... | 120 | ... | 100 |
| 100 | P ₀ | 0.01 | 145 | 140 | 131 | ... | 131 | ... | 100 ⁴⁷ |

IECR (2) - Provisional Allocations

- For each quarter determine the lowest price step where demand \leq supply (i.e. aggregated bids \leq offered quantity)
- The clearing price for each quarter is equal to the price step associated with each allocated quantity.
- Incremental revenue is calculated directly from the allocation and clearing price.

IECR (2) - Provisional Allocations

- **Provisionally** allocate at lowest step where demand \leq 130
- Look to allocate as much demand as possible at the lowest price, up to the limit of the step being assessed (in this case, 130).

| Available (GWh) | Price Step | Price (p/kWh/day) | Q3 | Q4 | Q5 | ... | Q9 | ... | Q34 |
|-----------------|----------------|-------------------|-----|-----|-----|-----|-----|-----|-----|
| 150 | P ₅ | 0.06 | 120 | 120 | 110 | ... | 100 | ... | 100 |
| 140 | P ₄ | 0.05 | 120 | 120 | 110 | ... | 100 | ... | 100 |
| 130 | P ₃ | 0.04 | 130 | 130 | 120 | ... | 100 | ... | 100 |
| 120 | P ₂ | 0.03 | 135 | 135 | 120 | ... | 110 | ... | 100 |
| 110 | P ₁ | 0.02 | 140 | 135 | 130 | ... | 120 | ... | 100 |
| 100 | P ₀ | 0.01 | 145 | 140 | 131 | ... | 131 | ... | 100 |

IECR (3) – Determine Clearing Prices & Calculate Revenue

- Clearing prices are determined from the provisionally allocated quantities previously identified.
- Revenue is calculated for 32 quarters (Q3 – Q34) so that the NPV of this revenue can be calculated over this time period.

$$\text{Revenue} = \frac{(a) \times (b) \times (c)}{100}$$

| | Q3 | Q4 | Q5 | | Q9 | | Q34 |
|-------------------------|------|------|------|-----|------|-----|-----|
| Capacity to Release (a) | 30 | 30 | 30 | ... | 20 | ... | 0 |
| Clearing Price (b) | 0.04 | 0.04 | 0.02 | ... | 0.02 | ... | 0 |
| Days per Quarter (c) | 92 | 91 | 91 | ... | 91 | ... | 91 |
| Incremental Revenue | 1.10 | 1.09 | 0.55 | ... | 0.36 | ... | 0 |


IECR (4) – NPV Test

- Test if the net present value (NPV) of the future revenue from release of the identified trigger level is greater than 50% of the value of the project required to physically provide the trigger level capacity.
- NPV is calculated over 32 quarters (including the release quarter) as defined in the IECR methodology statement.
- If the test fails, then the provisional allocations, associated clearing prices and revenues for the next lowest price step (in the example 120GWh @ P_2) are calculated and subjected to the NPV test.

IECR (4) – NPV Test

- From the example:

| | Q3 | Q4 | Q5 | ... | Q9 | ... | Q34 |
|----------------------------|-------------|-------------|-------------|-----|-------------|-----|----------|
| Capacity to Release (a) | 30 | 30 | 30 | ... | 20 | ... | 0 |
| Clearing Price (b) | 0.04 | 0.04 | 0.02 | ... | 0.02 | ... | 0 |
| Days per Quarter (c) | 92 | 91 | 91 | ... | 91 | ... | 91 |
| Incremental Revenue | 1.10 | 1.09 | 0.55 | ... | 0.36 | ... | 0 |

- NPV of revenues = £6.1m 
- 50% of project value to release 30GWh of incremental capacity = £6m
- Therefore $6.1 > 6 \rightarrow$ NPV test passed ü

IECR (4) – NPV Test

- If no trigger levels are found or none of those that are found pass the NPV test, then the next quarter is subjected to the entire process and the cycle will continue until every step of every quarter has been tested for an incremental signal.

Section 4



The IECR Model

Basic IECR Model Process

- Identify if demand exists for incremental capacity at an ASEP.
- Compare the Net Present Value (NPV) of the revenue associated with the incremental capacity to the estimated value of the investment required.
- If the NPV of the revenue associated with the incremental capacity is more than half the project value (required investment), National Grid will seek approval to designate the incremental capacity as obligated incremental entry capacity, as defined by the Licence.

Changes in 2013

- No major model process changes for 2014.
- Updated for new baselines and price steps.
- Updated with latest sold quantities.
- All latest data loaded into the model has been audited to ensure accuracy and consistency.

(NOTE: IECR Methodology Statement recently amended to correct the NPV test example in Appendix 2.)

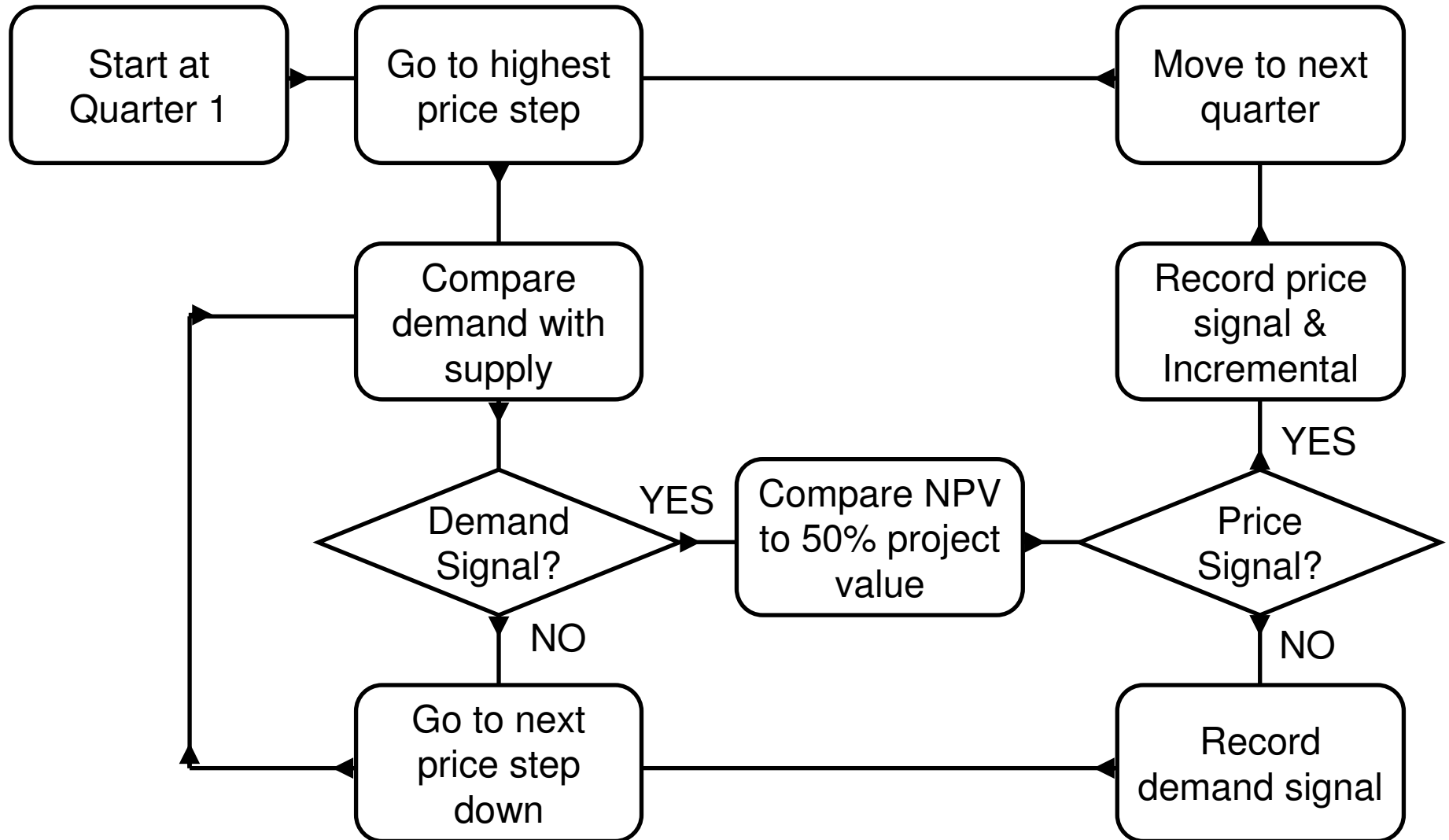
Limitations Of Current Model

- Minimum Bids
 - The model does not automatically deal with pro-rated bids that fall below the minimum bid
 - These need to be removed manually

How to use the IECR Model

Part A: What the Model Does

IECR Model: High Level Process Flow



How to use the IECR Model

Part B: Finding Your Way Around

Model Worksheets

- Model Control and Data
 - Control
 - Auction Result
 - Licence Info
- Model Outputs
 - Permanent
 - Demand
 - Final Demand

Model Worksheets

- Control
 - Main control sheet allows running of the model
 - Contains general parameters
 - NPV Test parameters
 - Baseline Data Tables
- Auction Results
 - Holds aggregate bid stacks by ASEP
- Licence Information
 - Holds capacity data (baseline and incremental)

Output Worksheets

- These worksheets are created when the model is run by the user
- Permanent
 - Lists the quarters for which the NPV test has been passed
- Demand
 - Lists the quarters and steps for which demand exceeds supply (trigger levels), but the NPV test has not been passed
- Final Demand
 - Provides a table and chart of the capacity offered (including new incremental), capacity allocated, the price step and clearing price

How to use the IECR Model

Part C: Running the Model

Running the Model

- Select an ASEP from the drop down list on the Control sheet
- Go to the Auction Result sheet
 - Enter an Auction Identifier
 - Enter a bid stack in the cells that relate to the selected ASEP
- Go back to the Control sheet
 - Click on the *IECR for Single ASEP* button to generate the Permanent and Demand sheets
 - Click on the *Provisional Clearing Levels for Single ASEP* button to generate the Final Demand sheet

Entering a Bid Stack

- The bid stack needs to be entered in GWh in the range for the ASEP being examined
- Bids need to take account of:
 - The capacity under (90% of) baseline that is still unsold
 - The size of the price steps associated with the ASEP
 - The first quarter that incremental capacity will be released
 - The NPV test is only applied across 32 quarters (8 years)
- The model assumes that bids follow Gemini rules
 - E.g. the quantity at price step P_{x+1} should not exceed the quantity at price step P_x

Example Output – Permanent sheet

- NPV test passed in one quarter

Results from the NPV methodology

All increments are with reference to the baseline offered

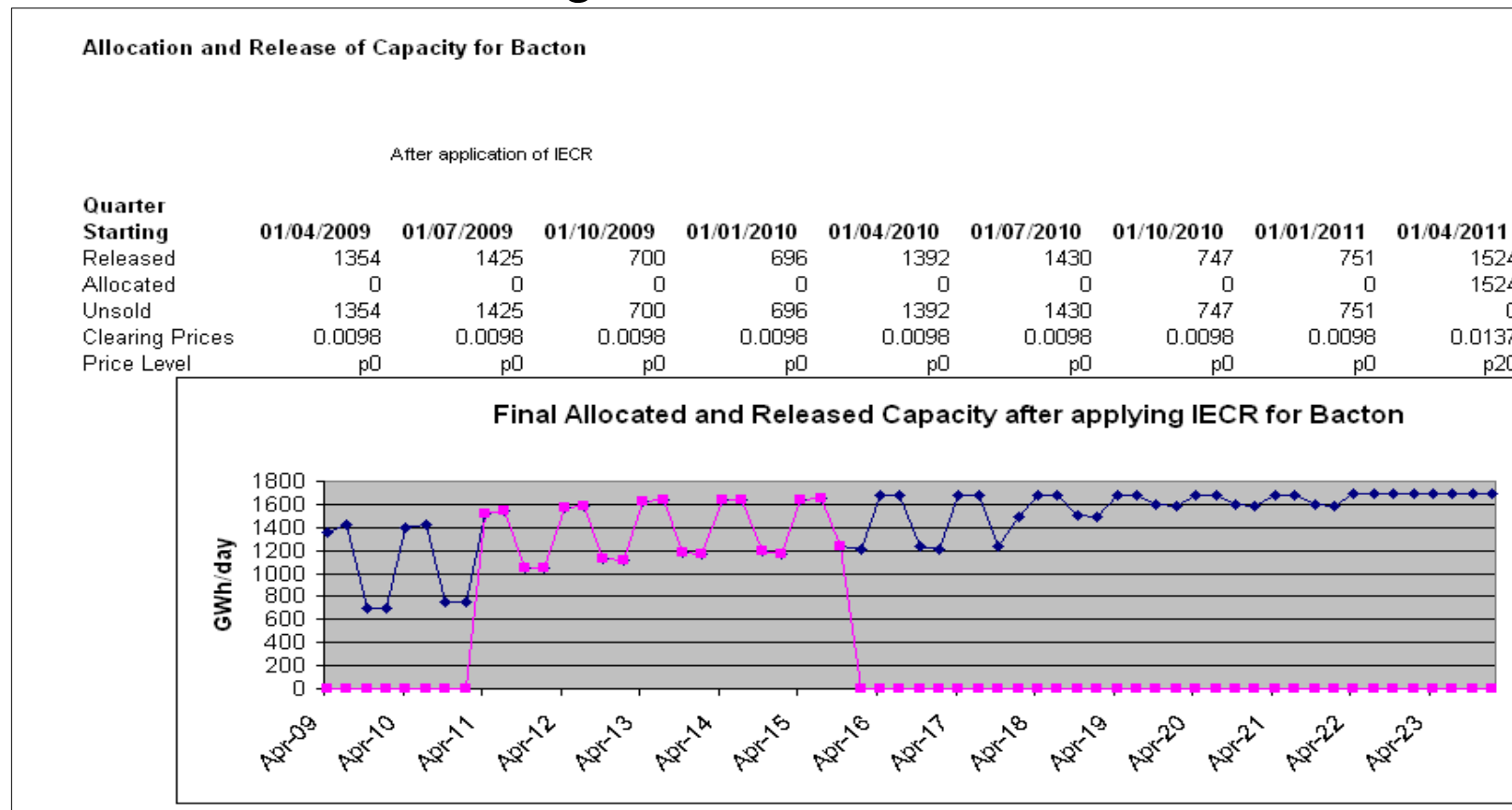
| ASEP | Quarter to release from | Inc. Volume Released (Gwh/day) | NPV of bids (£m) | NPV needed (£m) |
|-------------|------------------------------------|---|-----------------------------|----------------------------|
| Bacton | 01/04/2011 | 89 | 17.48 | 16.81 |

Interpreting Results

- The Permanent worksheet lists every quarter for which the NPV test has been passed
- ‘Inc. Volume Released’ is the highest step for which the NPV test has been passed
 - Not necessarily the full amount that has been bid for
- ‘NPV of bids’ and the ‘NPV needed’ (to pass the test) are shown for comparison
- The NPV test only needs to be passed in one quarter for the investment signal to be triggered

Example Output – Final Demand sheet

- The bid stack needs to be entered in GWh in the range for the ASEP being examined



Support

- The IECR model is provided voluntarily
- We do not guarantee that the version we publish will be the version used to analyse investment signals
 - However we expect that changes will be limited to bug fixes or corrections
- Support is on a 'best endeavours' basis and is limited to the functionality of the model itself
- National Grid cannot advise on bidding strategies

Section 5



Gemini and Website Overview

Overview of Bid Capture – Bidding Rules

- Quarterly Firm NTS Entry Capacity
 - Applied/registered by a User for each Day in a particular calendar quarter. *UNC TPD B2.1.4(a)*
- User bid must specify:
 - User ID / BA Code
 - ASEP
 - Calendar year & quarter
 - Amount¹ (kWh/Day)
 - Minimum amount¹
 - Price level² (Step price i.e. P1) *UNC TPD B2.2.6 (a-f)*

¹Not less than the minimum eligible amount

²As set out in NG NTS's Transportation Statement

Overview of Bid Capture – Adding Bids

- Home>Deal>Capture>Create Bids
 - Ensure that the appropriate product, location and sub-transaction have been selected before entering a bid.

When these fields have been entered Gemini will allow the User to click on this button to add a bid.

Overview of Bid Capture – Modifying Bids

- Home>Deal>Capture>Create Bids

When these fields have been entered Gemini will allow the User to click on this button to modify a bid.

Overview of Bid Capture – Modifying Bids

- Home>Deal>Capture>Create Bids

Smell Gas ? Call free on 0800 111 999
all calls are recorded and may be monitored

Contract Product Trade Deal Constraints DCM Invoice

Messages: 3823 User Name: kb120 BA: TRA User Role: IGMS006

GEMINI Environment: B PROD You are here : Home > Deal > Capture > Create Bids > Query Bids Deal

Bid Capture

Product*: --Select-- Method of Sale*: --Select-- Transaction Period*: --Select--

BA Code*: --Select-- BA Abbr. Name*: --Select-- BA Name*: --Select--

Location*: --Select-- Sub Transaction Period*:

Query Clear

Add Modify Withdraw Alternative Bid Linked Bid

When these fields have been entered Gemini will allow the User to click on this button to withdraw a bid.

Overview of Bid Capture – Modifying Bids

■ Home>Deal>Capture>Set Up Shipper Preferences

- This allows the User to specify their own validation limits (both upper and lower) for **capacity**, **price** and **value** of a bid. Users should also be able to specify their limits for a combination of **methods of sale** (i.e. QSEC) and **locations** (ASEPs).

The screenshot shows the 'Shipper Preferences' page in the Gemini system. The page is displayed in a Microsoft Internet Explorer browser window. The top navigation bar includes the Gemini logo and a banner for 'Smell Gas? Call free on 0800 111 999'. Below the banner, there are tabs for 'Contract', 'Product', 'Trade', 'Deal', 'Constraints', 'OCM', and 'Invoice'. The 'Deal' tab is selected. The user's name is 'kb120' and their role is 'IGMS006'. The breadcrumb trail is 'Home > Deal > Capture > Set Up Shipper Preferences > Query'. The main form area is titled 'Shipper Preferences' and contains several input fields: 'Product*' (a dropdown menu), 'Location*' (a text input field), 'BA*' (a dropdown menu), 'Abbreviated BA Name*' (a dropdown menu), 'BA Name*' (a dropdown menu), and 'Validation Parameter*' (a text input field). There are also 'Query' and 'Clear' buttons at the bottom right of the form. A black oval highlights the 'Product*', 'BA*', and 'Validation Parameter*' fields.

When these fields have been entered Gemini will allow the User to set or query their own preferences.

Interim Bid Window Results - Gemini

- After each IBW National Grid will notify Gemini Users of the cumulative amounts of Quarterly NTS Entry Capacity, no later than 20:00 hours

UNC TPD B2.14.1

- A Users submitted Quarterly capacity bids (in aggregate)
- At each price step, on such and earlier invitation dates, for each relevant Capacity Year.

The screenshot shows the National Grid website interface for 'Entry Capacity Auctions'. The page is viewed in Internet Explorer. The main content area is titled 'Entry Capacity Auctions' and contains a form for searching reports. The form has the following fields:

- Auction Type: Quarterly System Entry Capacity
- Report Type: Invitation Letter
- From Year: 2012
- To Year: 2013
- From Month: November
- To Month: December

A 'Submit Query' button is located to the right of the form. Below the form is a 'Reports' section with a table listing reports and their corresponding 'View PDF' links.

| View | Report |
|--------------------------|---|
| View PDF | Invitation Letter - October 01, 2013 to September 30, 2028 |
| View PDF | Invitation Letter for Tranche Number 1 - October 01, 2013 to September 30, 2028 |
| View PDF | Invitation Letter - April 01, 2013 to September 30, 2028 |

Interim Bid Window Results - Website

- IBW Reports available in CSV & PDF format
 - <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/capacity/entry-capacity-auction/> (select 'Quarterly System Entry Capacity' and 'Bid Window Results')

The screenshot shows the National Grid website interface. The main content area is titled 'Entry capacity auction'. Below this, there is a section for 'Entry Capacity Auctions' with a 'Criteria' form and a 'Reports' table.

Criteria

| | | | |
|--------------|---------------------------------|------------|----------|
| Auction Type | Quarterly System Entry Capacity | | |
| Report Type | Bid Window Results | | |
| From Year | 2012 | From Month | November |
| To Year | 2013 | To Month | December |

Submit Query

Reports

| View | Report |
|--------------------------|--|
| View CSV | Bid Window Results for Tranche Number 2 - October 01, 2013 to September 30, 2025 |
| View PDF | Bid Window Results for Tranche Number 2 - October 01, 2013 to September 30, 2025 |
| View CSV | Bid Window Results for Tranche Number 1 - October 01, 2013 to September 30, 2025 |
| View PDF | Bid Window Results for Tranche Number 1 - October 01, 2013 to September 30, 2025 |

Allocation Results - Gemini

- After allocation National Grid will notify Gemini Users of the following:
 - By Entry Point and by quarter publish the following:
 - Volume of entry capacity allocated (baseline and incremental)
 - The relevant step price group
 - Total amount of revenue to be derived
 - Highest price accepted
 - Lowest price accepted
 - Weighted average price accepted
 - The number of users that submitted successful bids
 - The amount of obligated capacity which remains unsold

Allocation Results - Website

- Report available in CSV & PDF format
- <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/capacity/entry-capacity-auction/> (select 'Quarterly System Entry Capacity' and 'Allocation Results')

The screenshot displays the National Grid website interface for 'Entry Capacity Auctions'. The page features a search bar and a navigation menu with options like 'Home', 'Our services', 'Our company', 'In your area', 'Industry information', 'Careers', and 'Contact us'. The main content area is titled 'Entry capacity auction' and contains a form for selecting auction criteria. The 'Criteria' section includes dropdown menus for 'Auction Type' (Quarterly System Entry Capacity), 'Report Type' (Allocation Results), 'From Year' (2012), 'From Month' (November), 'To Year' (2013), and 'To Month' (December). A 'Submit Query' button is located below the form. The 'Reports' section displays a table of available reports:

| View | Report |
|--------------------------|--|
| View PDF | Allocation Results - October 01, 2013 to September 30, 2028 |
| View CSV | Allocation Results - October 01, 2013 to September 30, 2028 |
| View PDF | Allocation Results for Tranche Number 2 - October 01, 2013 to September 30, 2028 |
| View PDF | Allocation Results for Tranche Number 1 - October 01, 2013 to September 30, 2028 |

Long Term Capacity Summary Report

■ Website

- <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/capacity/entry-capacity-auction/>

The screenshot shows the National Grid website interface. The main content area is titled 'Entry capacity auction'. Below this, there is a section for 'Entry Capacity Auctions' with a 'Criteria' form and a 'Reports' table.

Criteria

Auction Type: Long Term Summary
 Report Type: Summary Report
 From Year: 2012 From Month: November
 To Year: 2013 To Month: December
 Submit Query

Reports

| View | Report |
|----------|---|
| View XLS | Summary Report - December 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - November 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - October 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - October 01, 2013 to October 31, 2013 |
| View XLS | Summary Report - September 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - August 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - July 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - June 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - May 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - May 01, 2013 to May 31, 2013 |
| View XLS | Summary Report - April 01, 2013 to September 30, 2029 |
| View XLS | Summary Report - March 01, 2013 to September 30, 2028 |
| View XLS | Summary Report - February 01, 2013 to September 30, 2028 |
| View XLS | Summary Report - January 01, 2013 to September 30, 2028 |
| View XLS | Summary Report - December 01, 2012 to December 31, 2012 |
| View XLS | Summary Report - November 01, 2012 to November 30, 2012 |

Long Term Capacity Summary Report

- This report is updated on the first working day of each month and shows the Quarterly and Monthly NTS Entry Capacity sold and available in the QSEC, AMSEC and RMTNTSEC auctions.

Microsoft Excel - AggregateCapacitySoldbyASEP_summary011212 v1.0.xls [Read-Only]

File Edit View Insert Format Tools Data Window Help

Monthly Report as @ 1st December 2012
Units: UK standard units used i.e. kWh (with a combustion reference temperature of 288.15 K) - see Notes

| Month | Avonmouth AV | | | | Bacton BA | | | | Burton Point BP | | | | Ba | |
|--------|----------------------------|------------------------------|--------------------|-----------------|----------------------------|------------------------------|--------------------|-----------------|----------------------------|------------------------------|--------------------|-----------------|----------------------------|------------------------------|
| | Monthly Release Obligation | Aggregate Firm Quantity Sold | Non-Obligated Sold | Quantity Unsold | Monthly Release Obligation | Aggregate Firm Quantity Sold | Non-Obligated Sold | Quantity Unsold | Monthly Release Obligation | Aggregate Firm Quantity Sold | Non-Obligated Sold | Quantity Unsold | Monthly Release Obligation | Aggregate Firm Quantity Sold |
| | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d | kWh/d |
| Dec-12 | 179,300,000 | 23,480,325 | 0 | 155,819,675 | 1,783,400,000 | 814,074,693 | 0 | 969,325,317 | 73,500,000 | 26,571,367 | 0 | 46,928,633 | 309,100,000 | 155,520,308 |
| Jan-13 | 179,300,000 | 23,480,325 | 0 | 155,819,675 | 1,783,400,000 | 1,115,620,605 | 0 | 666,779,395 | 73,500,000 | 26,571,367 | 0 | 46,928,633 | 309,100,000 | 215,159,253 |
| Feb-13 | 179,300,000 | 23,480,325 | 0 | 155,819,675 | 1,783,400,000 | 1,115,620,605 | 0 | 666,779,395 | 73,500,000 | 26,571,367 | 0 | 46,928,633 | 309,100,000 | 215,159,253 |
| Mar-13 | 179,300,000 | 23,480,325 | 0 | 155,819,675 | 1,783,400,000 | 1,115,620,605 | 0 | 666,779,395 | 73,500,000 | 26,571,367 | 0 | 46,928,633 | 309,100,000 | 215,159,253 |
| Apr-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 115,455,156 | 0 | 1,666,944,844 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 89,996,723 |
| May-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 115,455,156 | 0 | 1,666,944,844 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 89,996,723 |
| Jun-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 115,455,156 | 0 | 1,666,944,844 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 89,996,723 |
| Jul-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 106,326,269 | 0 | 1,677,071,731 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 88,495,647 |
| Aug-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 106,326,269 | 0 | 1,677,071,731 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 88,495,647 |
| Sep-13 | 179,300,000 | 1,500,000 | 0 | 177,800,000 | 1,783,400,000 | 106,326,269 | 0 | 1,677,071,731 | 73,500,000 | 23,105,536 | 0 | 50,394,464 | 309,100,000 | 88,495,647 |
| Oct-13 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 782,871,808 | 0 | 1,000,528,192 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 136,360,539 |
| Nov-13 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 782,871,808 | 0 | 1,000,528,192 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 136,360,539 |
| Dec-13 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 782,871,808 | 0 | 1,000,528,192 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 136,360,539 |
| Jan-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 1,078,675,066 | 0 | 704,724,934 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 191,803,322 |
| Feb-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 1,078,675,066 | 0 | 704,724,934 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 191,803,322 |
| Mar-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 1,078,675,066 | 0 | 704,724,934 | 73,500,000 | 22,073,192 | 0 | 51,426,808 | 309,100,000 | 191,803,322 |
| Apr-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 104,081,334 | 0 | 1,679,318,666 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 81,445,911 |
| May-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 104,081,334 | 0 | 1,679,318,666 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 81,445,911 |
| Jun-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 104,081,334 | 0 | 1,679,318,666 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 81,445,911 |
| Jul-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 96,231,825 | 0 | 1,687,168,175 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 67,092,648 |
| Aug-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 96,231,825 | 0 | 1,687,168,175 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 67,092,648 |
| Sep-14 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 96,231,825 | 0 | 1,687,168,175 | 73,500,000 | 19,193,610 | 0 | 54,306,390 | 309,100,000 | 67,092,648 |
| Oct-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 570,600,855 | 0 | 1,212,799,145 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 309,100,000 | 103,978,481 |
| Nov-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 570,600,855 | 0 | 1,212,799,145 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 309,100,000 | 103,978,481 |
| Dec-14 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 570,600,855 | 0 | 1,212,799,145 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 309,100,000 | 103,978,481 |
| Jan-15 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 879,168,824 | 0 | 904,231,176 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 340,010,000 | 313,092,784 |
| Feb-15 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 879,168,824 | 0 | 904,231,176 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 340,010,000 | 313,092,784 |
| Mar-15 | 179,300,000 | 21,980,325 | 0 | 157,319,675 | 1,783,400,000 | 879,168,824 | 0 | 904,231,176 | 73,500,000 | 13,298,611 | 0 | 60,201,389 | 340,010,000 | 313,092,784 |
| Apr-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 51,366,542 | 0 | 1,732,033,458 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 60,639,818 |
| May-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 51,366,542 | 0 | 1,732,033,458 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 60,639,818 |
| Jun-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 51,366,542 | 0 | 1,732,033,458 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 60,639,818 |
| Jul-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 45,474,836 | 0 | 1,737,925,164 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 50,825,356 |
| Aug-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 45,474,836 | 0 | 1,737,925,164 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 50,825,356 |
| Sep-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 45,474,836 | 0 | 1,737,925,164 | 73,500,000 | 11,564,010 | 0 | 61,935,990 | 340,010,000 | 50,825,356 |
| Oct-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 838,526,859 | 0 | 944,871,141 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 90,402,784 |
| Nov-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 838,526,859 | 0 | 944,871,141 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 90,402,784 |
| Dec-15 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 838,526,859 | 0 | 944,871,141 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 90,402,784 |
| Jan-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 1,152,480,828 | 0 | 630,919,172 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 317,099,148 |
| Feb-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 1,152,480,828 | 0 | 630,919,172 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 317,099,148 |
| Mar-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 1,152,480,828 | 0 | 630,919,172 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 317,099,148 |
| Apr-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 43,464,576 | 0 | 1,739,935,424 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 62,069,021 |
| May-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 43,464,576 | 0 | 1,739,935,424 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 62,069,021 |
| Jun-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 43,464,576 | 0 | 1,739,935,424 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 62,069,021 |
| Jul-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 38,914,104 | 0 | 1,744,485,896 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 58,391,544 |
| Aug-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 38,914,104 | 0 | 1,744,485,896 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 58,391,544 |
| Sep-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 38,914,104 | 0 | 1,744,485,896 | 73,500,000 | 9,494,922 | 0 | 64,005,078 | 340,010,000 | 58,391,544 |
| Oct-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 828,614,618 | 0 | 954,785,382 | 73,500,000 | 5,634,035 | 0 | 67,885,965 | 340,010,000 | 88,999,148 |
| Nov-16 | 179,300,000 | 0 | 0 | 179,300,000 | 1,783,400,000 | 828,614,618 | 0 | 954,785,382 | 73,500,000 | 5,634,035 | 0 | 67,885,965 | 340,010,000 | 88,999,148 |

Notes Data as @ 01.10.12 (UK Units) Release Ob. Breakdown(UK Units) Data as @ 01.10.12 (EU units) Release Ob. Breakdown(EU units)

Section 6



Useful Contact Information

Useful Contact Information – National Grid Long Term Entry Capacity Auctions

nationalgrid

- Long Term Entry Capacity Auctions (inc. RMTNTSEC)
 - Helen Bennett Capacity Auction Analyst
 - Bradley Charles Capacity Auction Analyst
 - Steve Carey Senior Capacity Auction Analyst

- IECR Model
 - Steve Carey Senior Capacity Auction Analyst

- Team contact numbers:
 tel: +44 (0)1926 654057 fax: +44 (0)1926 654059

- Team email address:
 capacityauctions@nationalgrid.com

Useful Contact Information – National Grid Contacts

- Modifications

- Steve Fisher (steve.r.fisher@nationalgrid.com)

- Gas Charging and Access Development Manager

- New Entry Points – Gas Connections Team

- Kier Mayers (kier.mayers@nationalgrid.com)

Useful Contact Information – xoserve

- For Gemini E-Training contact
 - Customer Lifecycle Team
 - Email: customerlifecycle.spa.xoserve.com
- Website
 - www.xoserve.com

Useful Contact Information – Joint Office

- Publish Industry Information Customer Lifecycle Team
 - UNC mod proposals affecting QSEC auction
 - QSEC Invitation Letter
 - Website - www.gasgovance.co.uk
 - Contact Telephone Number
 - +44(0)121 623 2115