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Forecasted Contracted Capacity (FCC) Methodology (the “FCC Methodology”)

**Effective for the reference and reserve prices
applicable from 01 October 2021**

Draft - Under Development

Forecasted Contracted Capacity Methodology

Document Revision History

Version/ Revision Number	Date of Issue	Notes
1.0	March 2019	Published as an Appendix to UNC0678. This methodology will become the first methodology for UNC0678 from the date specified in the UNC0678 notice of implementation
1.1	March 2021	Published for review to update the Forecasted Contracted Capacity Methodology.

ABOUT THIS STATEMENT

This Forecasted Contracted Capacity Methodology describes the methodology that National Grid Gas plc (“National Grid”) in its role as holder of the Gas Transporter Licence in respect of the NTS¹ (“the Licence”) employs to determine the Forecasted Contracted Capacity to be input into the Postage Stamp (PS) model for the creation of the Reserve Prices for Capacity.

If you require further details about any of the information contained within this Forecasted Contracted Capacity Methodology, or have comments on how it might be improved, please contact our Future Markets team at box.gsoconsultations@nationalgrid.com or at:

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¹ The Gas National Transmission System

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GENERAL INTRODUCTION

Background

1. National Grid is the owner and the operator of the gas National Transmission System (NTS) in Great Britain.
2. The NTS plays an important role in facilitating the competitive gas market and helping to provide the UK with a secure gas supply. It is a network of pipelines, presently operated at pressures of up to 94 barg, which transports gas safely and efficiently from coastal terminals and storage facilities to exit points from the system. Exit points are predominantly connections to Gas Distribution Networks (GDNs), but also include storage sites, and direct connections to power stations, large industrial consumers and other systems, such as interconnectors to other countries.
3. These operations are carried out to meet the needs of the companies that supply gas to domestic, commercial and industrial consumers and to power stations.

CHAPTER 1: PRINCIPLES

Purpose of the Statement

4. This Forecasted Contracted Capacity (FCC) methodology statement (“the FCC Methodology”) has been produced to provide the methodology which will be used to create the FCC for all Entry and Exit Points, which is an input into the Postage Stamp (PS) Model approach to the Reference Price Methodology (RPM) as per UNC TPD Section Y, to produce the Entry Capacity and Exit Capacity reference and reserve prices.
5. The purpose of this methodology is to determine an annual value (based on a daily p/kWh/d) for each Entry and Exit point that will be used as part of the capacity reference prices and reserve prices calculations.

Scope

6. The FCC is an integral input to the PS model. This FCC methodology statement covers the steps used to calculate the FCC for all Entry and Exit Points which are within the PS model.

CHAPTER 2: GOVERNANCE

7. The FCC for an Entry Point or an Exit Point will be equal to a forecasted value determined by National Grid, in line with this methodology statement. The FCC Methodology applies to the reserve prices which are calculated after the latest published FCC Methodology, for application from the next relevant Gas Year. For the avoidance of doubt, this FCC Methodology does not form part of the UNC.
8. Ahead of each Gas Year, National Grid will apply the FCC Methodology to determine the FCC value for each Entry Point and Exit Point and these values will be communicated to industry as part of the publication of charges.
9. Where National Grid believes it necessary to review or update the FCC Methodology, it will consult with Stakeholders. Following the consultation, if the FCC Methodology is revised, National Grid will notify industry of any revisions as part of the publication of charges. Any such consultation would be concluded in advance of setting the tariffs for the forthcoming Gas Year.
10. Any such revision will take effect from the date specified unless Ofgem (upon application by any Shipper or Distribution Network Operator within one month of the notice) directs that the change is not made as per its powers under Standard Special Condition A11(18) of National Grid's Licence.

CHAPTER 3: Creation of the Forecasted Contracted Capacity (FCC)

Overview

11. The FCC is produced as a forecast for the subsequent 5 Gas Years.
12. The FCC values will be updated on an annual basis before setting the capacity charges for the applicable Gas Year (Y), which will be the first of the five years.
13. For the Gas Year Y, the application of the FCC Methodology will provide the actual FCC values (kwh/d) to be used in setting tariffs with the PS RPM.
14. The FCC is calculated for all Entry Points and Exit Points which are not Gas Distribution Networks (GDN) Exit Points by the following steps:
 - (a) Average actual historical flow per point for the previous 5 Gas Years (Y-2 – Y-6)
 - (b) Using latest available forecast demand create a normalisation value which will be applied to step a.
 - (c) Using previous years actual utilisation calculate a utilisation factor² to be applied to b.
 - (d) Consider the following values:
 - Booked capacity
 - Existing Contract (EC) Capacity (Entry only)
 - Planning and Advanced Reservation of Capacity Agreement (PARCA)³
 - (e) Use any forward looking knowledge of site which site is not operational in future then remove from the FCC calculation.
15. The FCC is calculated for GDN Exit Points as the 1 in 20 Peak for the Gas Year Y.
16. For Gas Year Y+1, Y+2, Y+3 and Y+4 an FCC estimate for all Entry Points and Exit Points is provided in order to inform indicative prices.
17. For these Gas Years (Y+1, Y+2, Y+3 and Y+4):
 - (a) This FCC Methodology will be used to determine the FCC values but for historic flows and utilisation will use the same value as used for setting Gas Year Y.
 - (b) For GDN Exit Points, the FCC will be equal to the latest capacity booked for the associated Gas Year or 1 in 20 for that year? (which one should be used?)

² When changes are made to the regime use most appropriate information which covers the same regime that would be in the future gas year where possible

³ <https://www.nationalgrid.com/uk/gas-transmission/connections/reserving-capacity-parca-and-cam>

Calculations

Entry Points

18. All Entry Points utilise the same process in the calculation of the FCC, which for the relevant Gas Year follows the steps below:

(a) Average **actual historical flow** per point for the previous 5 Gas Years (Y-2 – Y-6)

- i. For each quarter of the Gas Years Y-2 – Y-6⁴ calculate an average historical flow per point.
- ii. This value is then converted to an average capacity (kWh/d) booked per day over each quarter in the Gas Year
- iii. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

(b) Using **latest available forecast demand** (from Gas Ten Year Statement (GTYS)) to create a normalisation value which will be applied to step 18(a):

- i. Take the latest available forecast demand (from Gas Ten Year Statement (GTYS)) for the relevant Gas Year for which the FCC is being produced and create a normalisation value using the historic flows.
- ii. Apply the normalisation value to each quarter for the relevant Gas Year.
- iii. This input will be for the Gas Year for which the FCC is produced.

(c) Using **previous year actual utilisation**, calculate a utilisation factor⁵ to be applied to 18(b):

- i. Calculate the previous year actual utilisation per quarter based on flows and bookings. If there is Existing Contract (EC) Capacity then this will be removed before the calculation.
- ii. Apply the quarterly utilisation figure⁶ to the applicable quarters it relates to the values calculated in 18(b)

This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

(d) Consider the following values and if they should be used based on the latest available information:

- i. **Booked capacity** at the time of producing the FCC for Gas Year Y
 - Booked capacity for the applicable quarters in the Gas Year for which the FCC is being produced

⁴ If there is not 5 years worth of historical flow data then calculate an average based on the historical flow data available

⁵ For gas year 2021/22 due to the significant changes in the regime, we will use the available data from 01 October 2020 onwards

⁶ If the utilisation value is over 2.00 or there is no flow at a site then use the sector average

- ii. **Existing Contract (EC) Capacity** for the applicable quarters in the Gas Year
 - Existing Contract capacity for the applicable quarters in the Gas Year for which the FCC is being produced
 - iii. **PARCA Capacity Value** if progressed to Stage 2 of the PARCA⁷ at the time of producing the FCC for Gas Year Y:
 - PARCA reserved capacity for the relevant quarters in the Gas Year for which the FCC is being produced
 - PARCA reserved capacity taken from start date of when capacity is required
- (e) Use any forward looking knowledge site is not operational in future then zero the FCC value and repeat steps 18 (a,b,c,d).
- (f) The values will be converted into kWh/d to produce the FCC value for the applicable Gas Year per Entry point.

Exit Points

19. For GDN Exit Points, the **booked capacity** will be used as the FCC:

- (a) For Gas Year Y, FCC is calculated for GDN Exit Points as the 1 in 20 Peak for the Gas Year Y.
- (b) For Gas Years Y+1, Y+2, Y+3, Y+4, the capacity booked for the applicable Gas Year, at the time of production of the FCC or 1 in 20 for that year, will determine the FCC for the relevant Gas Year
 - i. e.g. the FCC for Gas year 2023/24 will be equal to the latest capacity booked for Gas Year 2023/24
- (c) The values from steps (19) (a) and (b) will be divided by the number of days in the relevant Gas Year to obtain an average daily (kWh/d) value for relevant Gas Year

20. For all other Exit Points the same process will be used in the calculation of the FCC, which for the applicable Gas Year the FCC is produced using the following steps:

- (a) Average **actual historical flow** per point for the previous 5 Gas Years (Y-2 – Y-6)
 - iv. For the Gas Years Y-2 – Y-6⁸ calculate an average historical flow per point.
 - v. This value is then converted to an average capacity (kWh/d) booked per day in the Gas Year
 - vi. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

⁷ Information on the applicable PARCA sites is available on National Grid's website (<https://www.nationalgridgas.com/connections/reserving-capacity-parca-and-cam>)

⁸ If there is not 5 years worth of historical flow data then calculate an average based on the historical flow data available

- (b) Using latest available **forecast demand** (from Gas Ten Year Statement (GTYS)) to create a normalisation value which will be applied to step 20(a):
- i. Take the latest available forecast demand (from Gas Ten Year Statement (GTYS)) for the relevant Gas Year for which the FCC is being produced and create a normalisation value using the historic flows.
 - ii. Apply the normalisation⁹ for the relevant Gas Year.
 - iii. This input will be for the Gas Year for which the FCC is produced.
- (c) Using previous year **actual utilisation**, calculate a utilisation factor¹⁰ to be applied to 20(b):
- iii. Calculate the previous year actual utilisation based on flows and bookings.
 - iv. Apply the utilisation figure¹¹ to the Gas Year it relates to the values calculated in 20(b)
- This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4
- (d) Take the following values and assess whether they should be used based on the latest available information:
- i. **Booked capacity** at the time of producing the FCC for Gas Year Y
 - Booked capacity and consideration specifically to those which have User Commitment for the Gas Year for which the FCC is being produced
 - ii. **PARCA Capacity Value** if progressed to Stage 2 of the PARCA¹² at the time of producing the FCC for Gas Year Y:
 - PARCA reserved capacity for the Gas Year for which the FCC is being produced
 - PARCA reserved capacity taken from start date of when capacity is required
- (e) Use any forward looking knowledge site is not operational in future then zero the FCC value and repeat steps 20 (a,b,c,d).
- (f) The values will be converted into kWh/d to produce the FCC value for the applicable GAs Year per Exit point.

⁹ Storage sites defaulted to 1 as storage not classed as a demand.

¹⁰ For gas year 2021/22 due to the significant changes in the regime, we will use the available data from 01 October 2020 onwards

¹¹ If the utilisation value is over 2.00 or there is no flow at a site then use the sector average

¹² Information on the applicable PARCA sites is available on National Grid's website (<https://www.nationalgridgas.com/connections/reserving-capacity-parca-and-cam>)

CHAPTER 4: Exceptions

21. In the first instance, this FCC methodology will be applied. In exceptional circumstances, it may be necessary for National Grid to apply different principles to determine an FCC for a specific Entry or Exit point. This would be required to ensure reference prices and reserve prices can be generated so as not to inhibit the operation of the RPM. Examples may include, and are not limited to:
- i. If an Entry or Exit Point no longer has capacity to be made available for an auction or allocation process however it remains in the Licence;
 - ii. If an Entry or Exit Point is not realistically expected to yield any capacity bookings due to known circumstances such as closure of a site and / or capacity cannot be made available;
 - iii. Other situations whereby alternative approaches are required in order to derive an FCC value for the Entry or Exit Point for which a price will be required in the given year.
22. Where an approach other than that given in Chapter 3 is used, National Grid will outline along with publication of charges where this has been carried out.