national gas transmission

2023 Exit Capacity Allocation Report

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1 Summary

This report provides details of the 2023 Exit Capacity allocation process. In line with 3.43 of the Exit Capacity Planning Guidance requirements it provides details of the applications received for the Exit (Flat) Capacity, Exit (Flex) Capacity and Assured Offtake Pressures (AOP) during the Exit Capacity application windows. Definitions of these products can be found in Appendix A.

Key Outcomes are:-

a. NGT's (National Gas Transmission) assessment of the agreements reached on Capacity and AOP's, is that they are risk neutral for NGT when compared to previous years allocations.
b. The agreements reached are cost neutral for NGT and in addition do not require any additional capital investment on the part of NGT in order to be met under 1 in 20 demand conditions.
c. All Exit (Flat) Capacity was accepted as requested for all relevant years.
d. Requests were accepted as non-obligated capacity release, for an increase in Exit (Flat) Capacity above the obligated level at thirteen offtakes, as shown in table 1.

Offtake	LDZ
This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure	

Table 1 Offtakes with non-obligated capacity release

e. From gas year 2026, further Firm Enduring Annual NTS Exit (Flat) capacity (above baseline) was allocated at one offtake as shown in table 2, this will be met through capacity substitution.

Offtake	LDZ
This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure	

Table 2 Offtakes with capacity allocated through substitution

f. Total Exit (Flex) Capacity
- increased: West Midlands.
- decreased: Northeast and North.
- no change: East Anglia, East Midlands, North Thames, North West, Scotland, South East, South, South West, Wales North and Wales South.

g. All flex capacity has been accepted at all offtakes.

h. Through collaboration with GDNs, AOP increases were accepted in East Anglia, the North West, the North East and West Midlands.

However, some of AOP increases could not be accommodated at:

- North Thames – within several sensitivity scenarios, local demand and supply could not accommodate a pressure increase, and higher AOP impacts Isle of Grain Entry capability.

- North West and West Midlands - Using Base case as reference additional supply needed to increase EOD AOP to similar to last year.

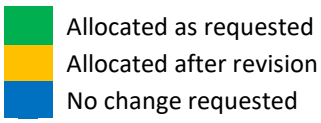
- West Midlands rejected based on reduction in entry capability when increased pressure is considered. Partial increase accepted based on low linepack analysis

- West Midlands rejected due to costing element and reduction in capability

i. The following table summarises the outcomes of the requests for respective LDZs.

LDZ	Flat	Flex	Pressure
East Anglia			
East Midlands			
North East			
North			
North Thames			
North West			
Scotland			
South East			
South			
South West			
West Midlands			
Wales North			
Wales South			

Table 3 Summary of Exit allocation outcomes



j. There was a significant decrease in Flat capacity bookings by power stations from last year. This impacts overall Exit capacity assessment.

2 Capacity Overview

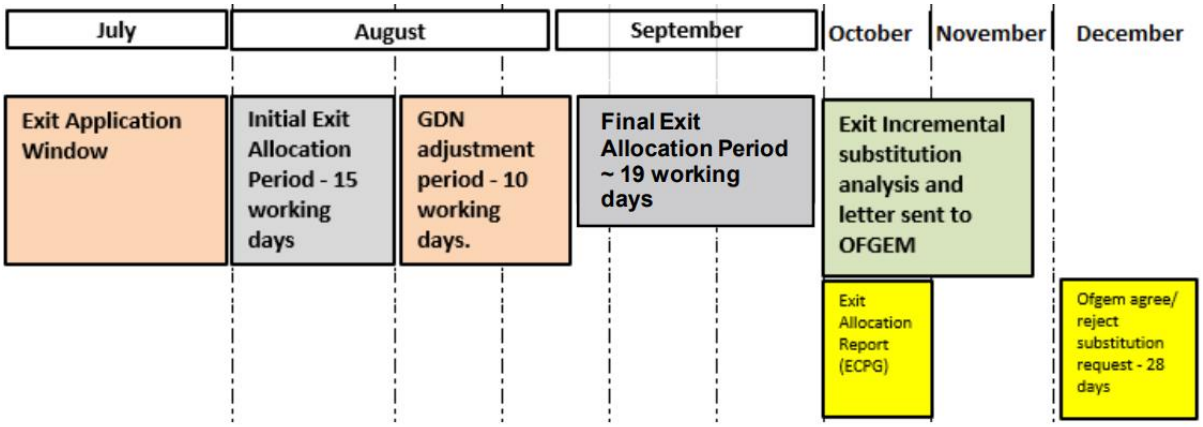
National Gas Transmission releases Exit (Flat) Capacity at each offtake from the NTS to comply with its Gas Transporter Licence and Uniform Network Code (UNC) obligations.

National Gas Transmission makes firm and Off Peak capacity available to the market at each offtake point. Overview descriptions[1] of capacity products which are booked during annual Exit allocation process can be found in appendix A.

Off Peak capacity is made available to the market at all offtake points, within day and the day ahead, when forecast demand is below 80%[2] of peak demand. For further information refer to the capacity guidance website.

[1] For more detailed description refer to UNC Transportation Principle Document – Section B: System Use and Capacity (https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-10/TPD%20Section%20B%20-%20System%20Use%20%26%20Capacity.pdf)
[2] UNC TPD section B 3.6)

3 Exit Allocation Process Overview



3.1 Assured Offtake Pressures

Prior to the Exit Allocation period, National Gas Transmission can request reductions to AOP, which GDNs can either accept or reject. During the Exit Allocation period GDNs are able to request AOP increases and decreases, which National Gas Transmission can either accept or reject. Any previously agreed reductions to AOP prior to the Exit Allocation initial submission should be reflected in the GDN submissions.

Appendix A gives further details on the Exit process, and Appendix B shows a timeline for the Exit period.

4 2023 Exit Capacity Allocations

Network analysis using Simone software package is carried out to assess the Exit capacity and AOP requests. As well as information supplied by Exit users, National Grid ESO's Future Energy Scenarios (FES) are used as inputs to Simone network simulations. Sensitivity scenarios are further undertaken for constrained regions of the system, i.e. Southeast and Southwest, also referred to as zone 7 and zone 5[3], respectively. Additional sensitivities can optionally be carried out for other regions when there are significant local changes to expected flows, such as potential new loads, as well as in regions with substantial AOP increase requests.
Detailed description of network analysis carried out for Exit capacity allocation will be in the Methodology Statement as required by Exit Capacity Planning Guidance (ECPG).

4.1 Exit (Flat) Capacity

There was slight decrease from last year's booking in total GDNs Exit (Flat) capacity bookings across all years. Figure 1 shows comparison with Falling Short [4] FES scenario.

The Exit capacity assessment showed that these increases did not materially increase the current level of risk to the NTS. Therefore, all Exit (Flat) capacity requests for GDNs[5] were accepted including those that were above baseline.

[3] See the Annual Network Capability Assessment Report (https://www.nationalgas.com/documents/143386-annual-network-capability-assessment-report-ancar-2023)
[4] Falling Short scenario is used for Exit Allocation network analysis. Refer to the methodology statement for detailed discussion on network analysis
[5] See the Annual Network Capability Assessment Report (https://www.nationalgas.com/documents/143386-annual-network-capability-assessment-report-ancar-2023)

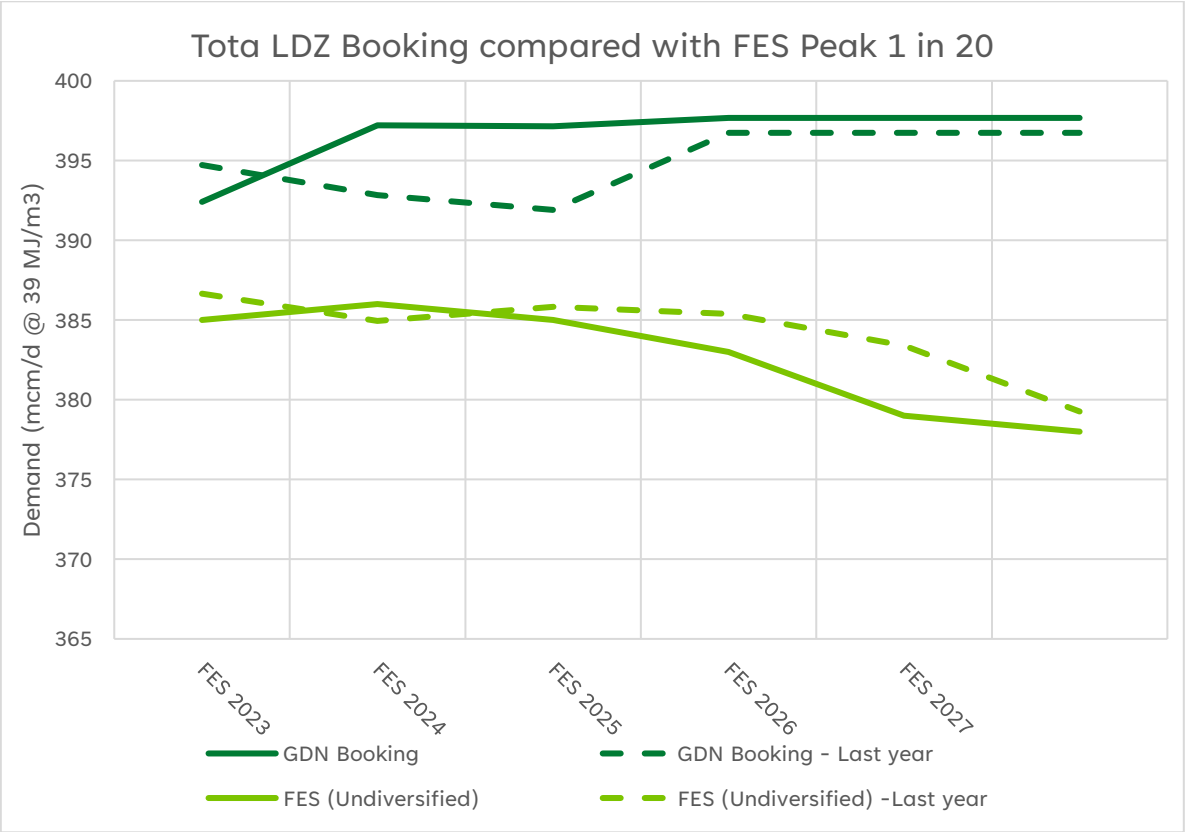


Figure 1 Comparison of GDNs' Peak 1 in 20 bookings with Undiversified FES Falling Short scenario.

There was overall increase in Flat capacity in most of LDZs, with overall decrease on in Scotland, and no change in the Northeast. The map in figure 2 depicts the flow changes in LDZs

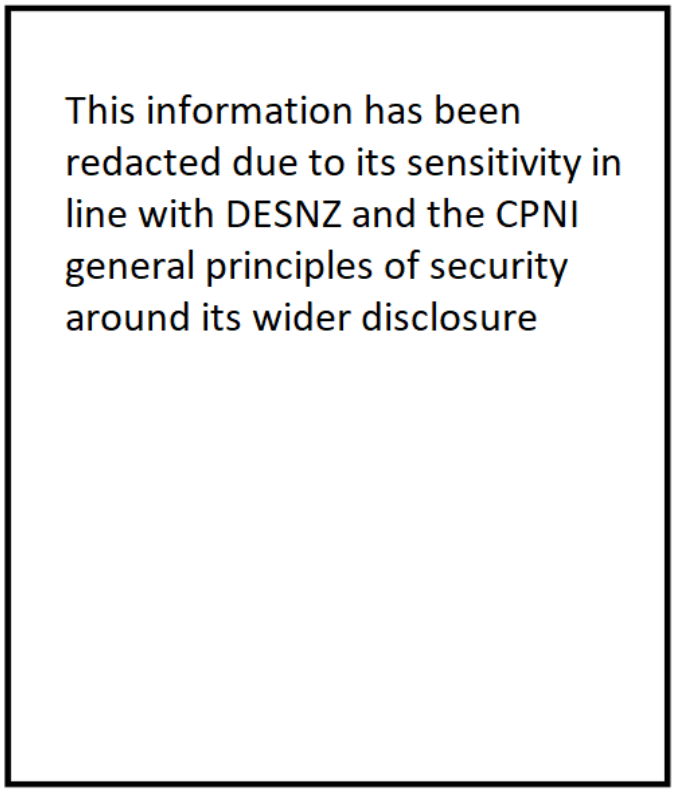


Figure 2: flow changes at LDZs offtakes

4.1.1 Incremental Exit Capacity Release

There were some Exit (Flat) Capacity requests which were above baseline. The above baseline capacity for the years Y+1 to Y+3 were released as non-obligated capacity, as shown in table 4.

Offtake	LDZ	Non-obligated capacity (mcm/d @ 39 MJ/m³)		
		Y+1	Y+2	Y+3
		This information has been redactec due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure		

Table 4 Incremental capacity which was released as non-obligated capacity

For the gas years Y+4 onwards the capacity above baseline will be released through Exit capacity substitution[6]. Table 5 shows offtakes where Exit (Flat) capacity is being progressed for release through substitution.

Offtake	LDZ	Non-obligated capacity (mcm/d @ 39 MJ/m³)		
		Y+1	Y+2	Y+3
		This information has been redactec due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure		

Table 5 Incremental capacity which was released through substitution

[6] Capacity substitution is moving unsold capacity from one Exit point to another Exit point where it has been signalled. For more details refer to the Exit capacity substitution and revision (ExCS) methodology statement

4.2 Exit (Flex) Capacity

There was an overall increase in Exit (Flex). Figure 3 shows the final amount of Flex that was released, compared to last year.

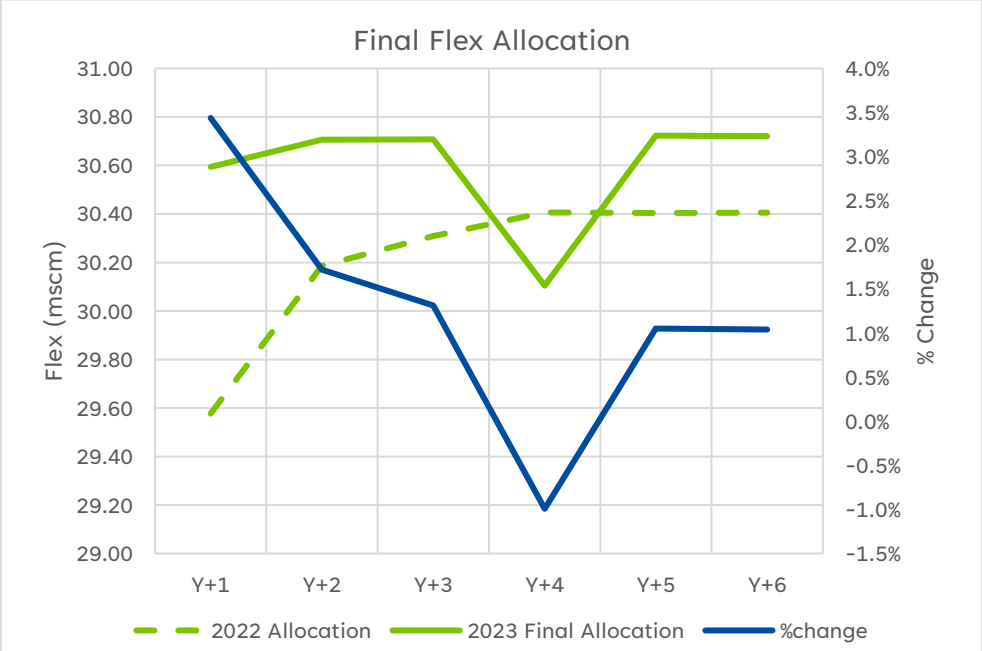


Figure 3 Final Exit (Flex) allocation, compared with last year's

For additional information, see Section 5 which discusses specific GDN's flex allocations, while appendix D tabulates details of Flex requests and decisions for each offtake.

4.3 Assured Offtake Pressure Allocation

AOPs represent the minimum pressure limit which NGT is obliged to make available at each GDN offtake. There are two parts of the AOP, 06:00 AOP and at 22:00 AOP, also sometimes referred to start of day (SOD) and end of day (EOD), respectively. GDNs can request an increase, or can reduce at their discretion, either or both of these.
There were a number of AOP increase requests, mainly for the EOD pressure. Some requests were agreed as requested.
However , at other offtakes, following assessment, AOP increases could not be accommodated due to the constrained nature of the locations, the effect of agreeing pressure changes on Entry or Exit capability or the ability of the network to provide the required levels of Flex.

Figure 4 shows an overview of the final pressure changes at various locations on the network. Section 5 discusses AOP request for specific GDN, while appendix E tabulates details of pressure requests respective decision for the entire system.

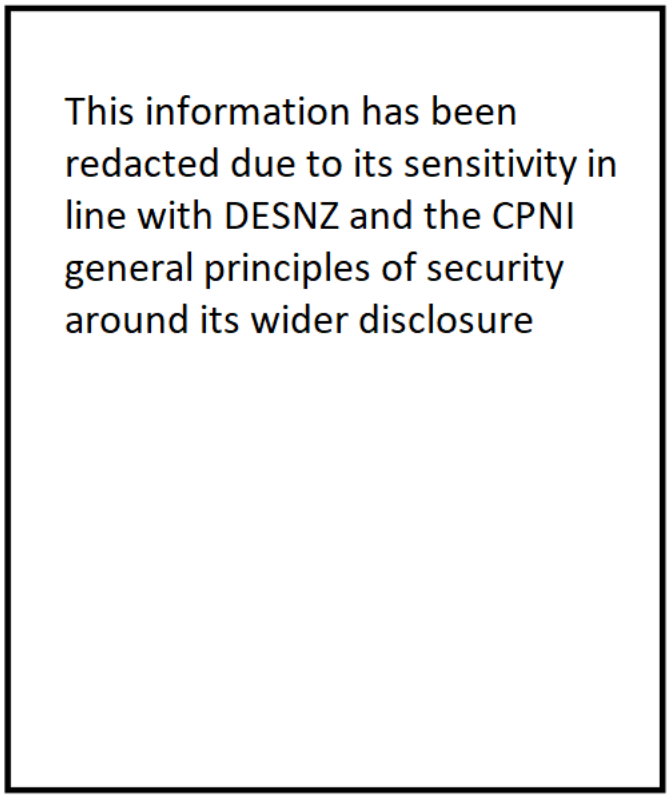


Figure 4: AOP changes

Bilateral discussions with GDNs were carried out, prior to booking submissions, in which indicative views on the likely outcomes were communicated, as part of collaborative working with GDNs.

5 Capacity and Pressure Allocation for each Distribution Networks

5.1 Northern Gas Network Requests

Northern gas networks (NGN) owns two LDZs, Northern (NO) and Northeast (NE). Both are located in a region where pipeline and compression assets provide significant Entry and transit flow capability, hence the Exit (Flat) and Exit (Flex) requests could be accepted.

5.1.1 Flat Capacity

There was no change in total LDZ capacity request in the NE LDZ as can be seen in table 6. In the NO LDZ there was an increase in the first year, followed by zero in the rest of the years.
All Flat capacity increases at offtakes were within baseline, and were allocated.

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Table 6 Northeast and Northern LDZs Flat capacity booking

5.1.2 Flex Capacity

There was an overall slight decrease in Flex requested in both LDZs, in all years, (refer to appendix D for Flex booking details).

All Flex capacity changes at offtakes were allocated in both LDZs.

5.1.3 Assured Offtake Pressure

There was only one offtake pressure change in the North East, where an AOP increase request was submitted for an EOD increase. This followed bilateral discussion with NGN, and top level indicative assessment. Following detailed analysis this request was agreed.

5.2 SGN Requests

SGN owns three LDZs, Scotland (SC), Southeast (SE), and Southern (SO). There is some interaction between SE and SO.

5.2.1 Flat Capacity

For the SC LDZ there is a slight overall increase, Y1, Y4, Y5 and Y6 see and increase with only a decrease in Y2 and Y3 (see appendix C). There was an increase in SO only in the first year, and no change in the rest of the years. There was no change in SE LDZ.

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Table 7 Scotland, Southeast and Southern LDZs Flat capacity booking

5.2.2 Flex Capacity

There was no change to Flex bookings in all the three LDZs.

5.2.3 Assured Offtake Pressure

There were no changes to AOP bookings in the three LDZs.

5.3 Wales and West Utilities Requests

Wales and West Utilities owns three LDZs, Wales North (WN), Wales South (WS), and Southwest (SW). WS and SW are located in a region influenced by the uncertainty of LNG supplies at Milford Haven, with the SW also being the extremity of the network without local Entry supply, and thus a constrained area.

5.3.1 Flat Capacity

There are no changes is flat bookings for any of the LDZs, as shown in Table 8 below (see appendix C for specific offtake changes).

All the Flat capacity changes were allocated.

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Table 8 Southwest, Wales North, and Wales South LDZs Flat capacity booking

5.3.2 Flex Capacity

There was a slight increase in flex through the years in the South West

5.3.3 Assured Offtake Pressure

There was no request for AOP increases from WWU.

5.4 Cadent Gas Requests

Cadent Gas has five LDZs East Anglia (EA), East Midlands (EM), North Thames (NT), Northwest (NW), and West Midlands (WM).

5.4.1 Flat Capacity

In EA has an overall increase in capacity where the first two years are a decrease in capacity but then followed by 4 years with an increase. In EM an overall decrease where the first two years are a decrease in capacity followed by a third year with an increase and then two further years of decreased capacity. In NT there is an overall

increase in capacity where the first two years are the same but then followed by 4 years with an increase. In NW there is an overall decrease in capacity with each year decreasing. In WM there is an overall decrease in capacity with a decrease in every year.

All Flat capacity requests were accepted. (Refer to section 4.1.1).

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Table 9 East Anglia, East Midlands, North Thames (North London), Northwest, and West Midlands LDZs Flat capacity bookings

5.4.2 Flex Capacity

There was an increase in flex capacity only in WM LDZ for all years (refer to appendix D for Flex booking details).

5.4.3 Assured Offtake Pressure

AOP increases were accommodated in parts of East Anglia, North West and West Midlands.

Table 10 summarises AOP increase final agreements.

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Table 10 AOP Changes in Cadent's LDZs

6 Capacity Allocation for Direct Connects

There was a significant decrease in Exit capacity request from power stations and industrials, i.e. directly connected (DC) load as illustrated in Figure 5.

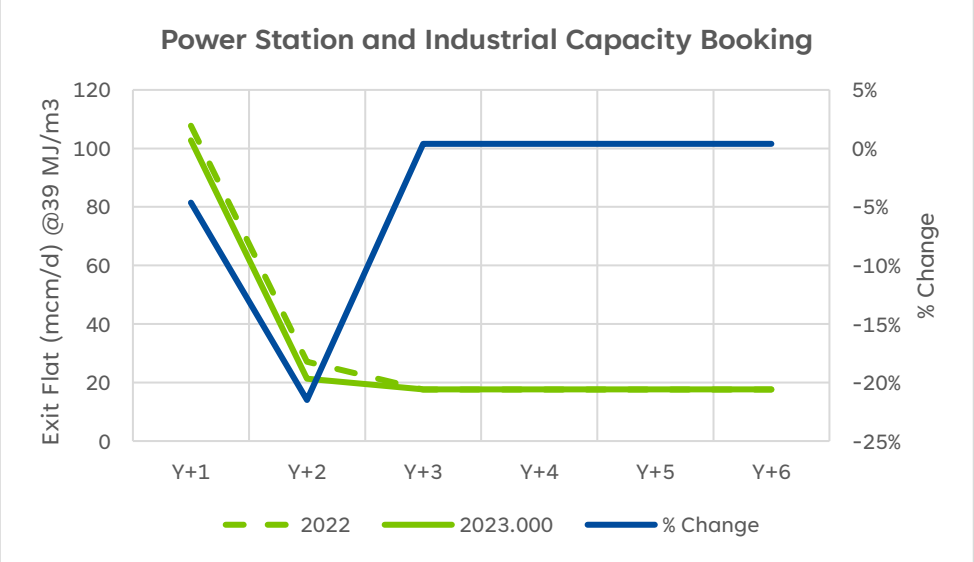


Figure 5 Total DC capacity booking trend

7 LDZ Offtake Flow Assumptions Development

Currently FES does not produce LDZ flow scenarios down to individual offtake level. The assumptions used based of using GDN supplied offtake forecasts to proportional split total LDZ FES flows to individual offtake flow. We are working on development a better way of producing the flow at offtake level which will be used in future Exit allocation cycles. Possible options include using statistical method based historical data.

8 Appendix

Appendix A: Exit Capacity Applications Process

Definitions:

a. **NTS Exit(Flat) Capacity:** is made available to permit the offtake of gas from the NTS at an even rate over the course of a Gas Day. A user can vary its rate of throughout the Gas Day provided that the daily quantity offtaken does not exceed the allocated flat capacity. Any variations must not exceed any limits on the rate of offtake made in respect of the connection.

b. **NTS Exit(Flexibility) Capacity:** applies only to GDN users. It is made available to permit, and used in, the offtake of gas from the NTS to the extent that the rate of offtake is not at an even rate over the course of a Day.

c. **Assured Offtake Pressures (AOP):** represents the minimum pressure required by a GDN at the offtake from the gas National Transmission System (NTS) in order to maintain adequate pressures in their own downstream system.

Users can request changes to their long term (Enduring) exit capacity through the long term Exit Capacity application window, as below.

All Users:-

a. **Enduring Annual Exit (Flat) Capacity Decrease application**: - This allows a User to decrease their enduring capacity holdings from Year Y+1 (October following the July window). The application period for this process is 01 to 15 July.

b. **Annual NTS (Flat) Exit Capacity application**: - This is for capacity covering the period Y+1 to Y+3. The capacity allocated as a result of this application window is not enduring and applies only for the relevant year. The application period for this application window is 01 to 31 July

c. **Enduring Annual Exit (Flat) Capacity Increase application**: - This application window is for capacity covering the period Y+4 to Y+6. The capacity applied for in this application window is enduring capacity (i.e. applies for all future years from the first date for which capacity is requested), and is subject to User commitment (equivalent to the financial value of four years of capacity charges). The application period for this is 01 to 31 July.

GDN Users:-

Annual NTS (Flexibility) Exit Capacity :- GDN Users can apply for an increase or decrease in their NTS Exit (Flexibility) Capacity at NTS/LDZ offtakes for relevant gas year Y+1 up to gas year Y+6 (inclusive) by submitting an application during the application window period between 01 to 31 July. This is also the period when GDN Users request changes in Assured Offtake Pressure (AOP).

Users may apply for additional Enduring Annual NTS Exit (Flat) Capacity via either of two processes, which are detailed in the UNC (TPD Section B3.2). These processes allow application:

a. Within the Annual Application Window – held in July of each year; and

b. Outside of the Annual Application Window, permitted at any time from 1st October to 30th June in each Gas Year.

c.

Exit (flat and Flex) Capacity Application Timeframe

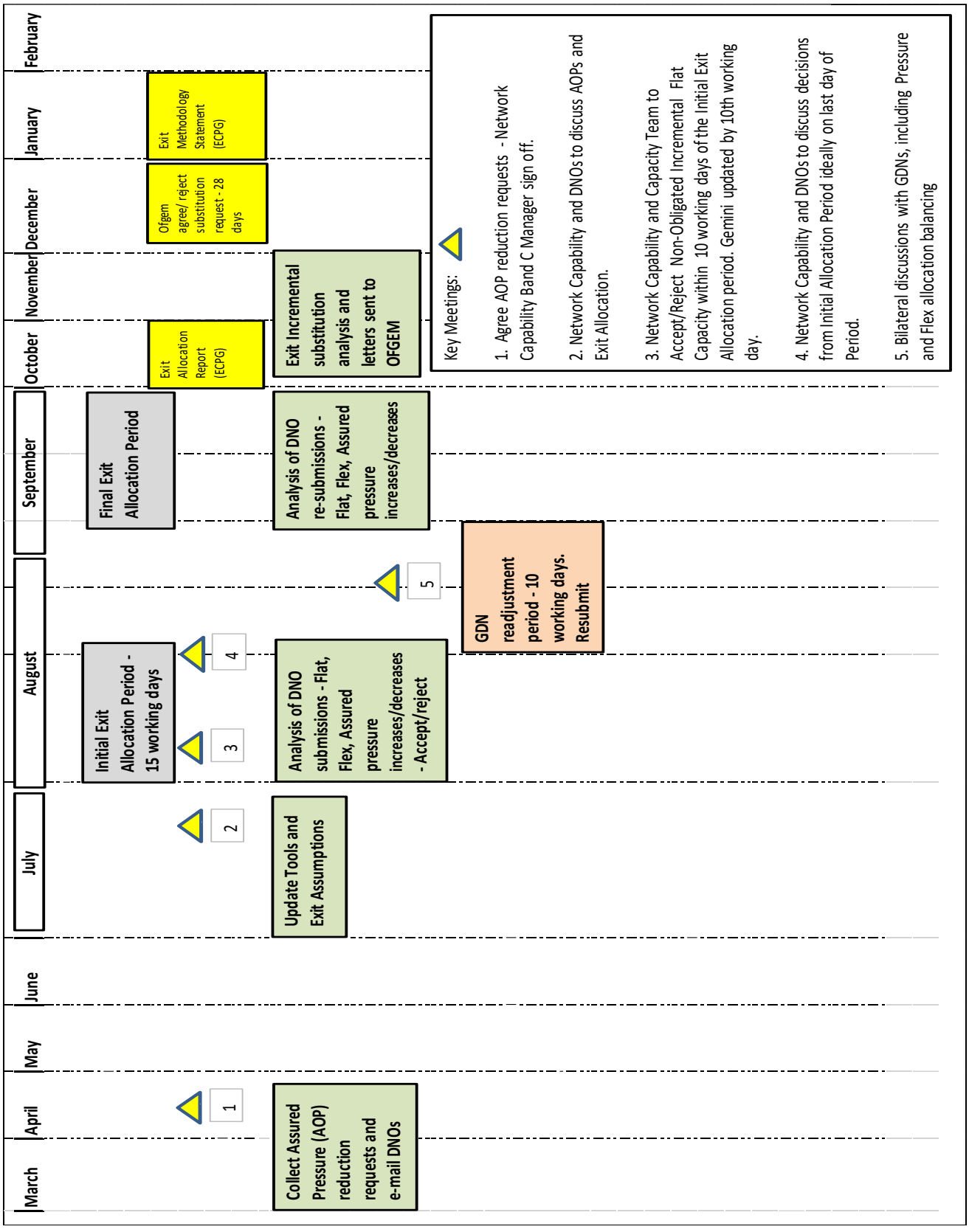
NTS Exit (Flat and Flexibility) capacity application windows close on 31st July. Requests for Exit (Flat and Flexibility) Capacity, received within the window, are processed as explained below:-

a. **Exit Allocation Period – Initial**: This period starts from the 1st working day of August and lasts for 15 working days. During this period, the Gas Network Development Team, within National Grid Transmission, carry out network analysis to take into account; requested increases/decreases in exit (Flat and Flex) capacity, system constraints/availability, sensitivities scenarios, and future projects. Following the analysis, the decisions regarding the exit capacity requests are communicated to Users via uploading the allocated quantities to GEMINI and teleconferences with the GDN Users.

b. **DN review period**: This period starts from the next working day following the expiry of the "exit allocation period – initial" and lasts for 10 working days. This is the opportunity for GDN Users to review the outcome of their requested Exit (Flex) Capacity especially where it was partly accepted and/or rejected. This is the opportunity for GDN Users to change or reallocate their Exit (Flex) Capacity requirements and resubmit their requests if needed.

c. **Exit Allocation Period – Final**: This period starts from the next working day on the expiry of the DN review period and last until the end of September. In this period we reanalyse the updated/amended exit capacity applications submitted during DN review period.

Appendix B: Exit Timeline



Appendix C: Exit (Flat) Capacity Table (Distribution Networks) (mcm/d @ 39 MJ/m3)

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Appendix D: Exit (Flex) Capacity Table (mcm @ 39 MJ/m3)

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure

Appendix E: Assured Offtake Pressure Table

This information has been redacted due to its sensitivity in line with DESNZ and the CPNI general principles of security around its wider disclosure