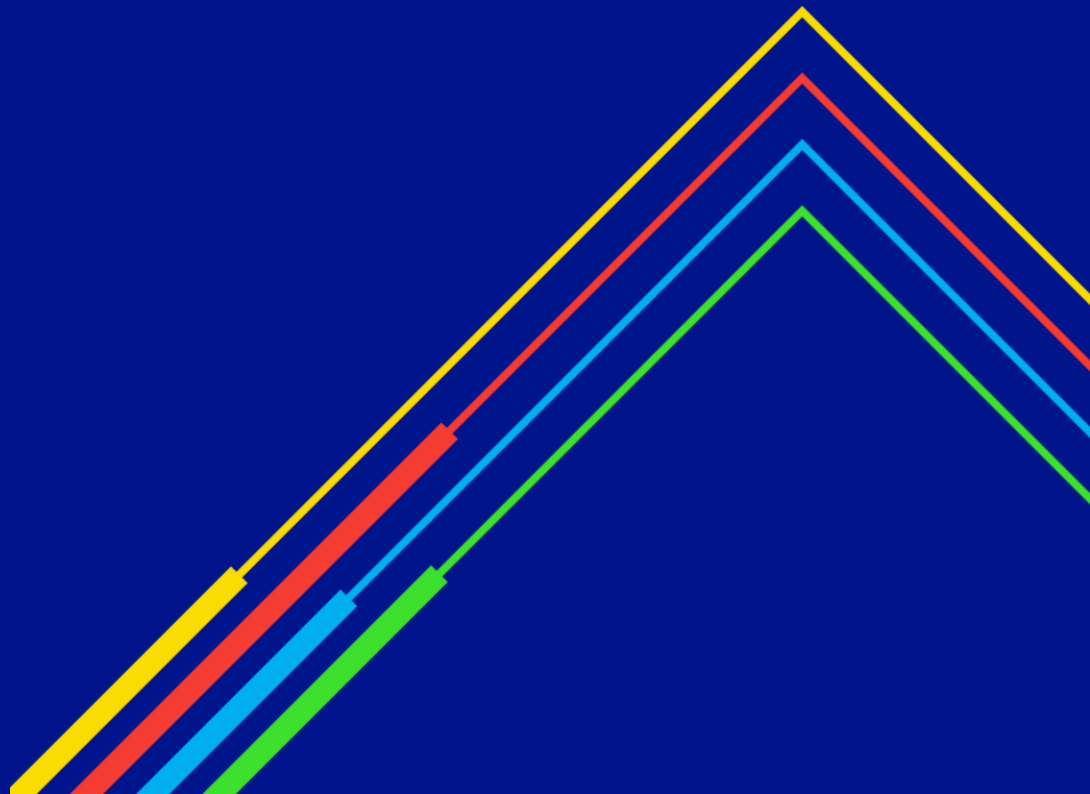


Capacity Access Review

Transmission Workgroup

5th November 2020

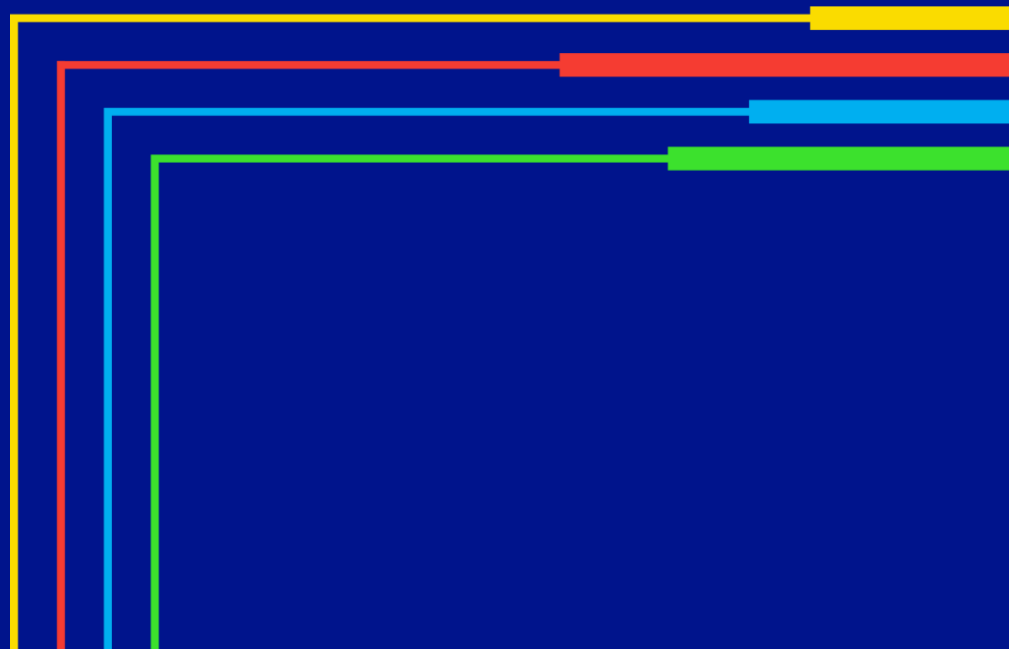
nationalgrid



02

Entry User Commitment

nationalgrid



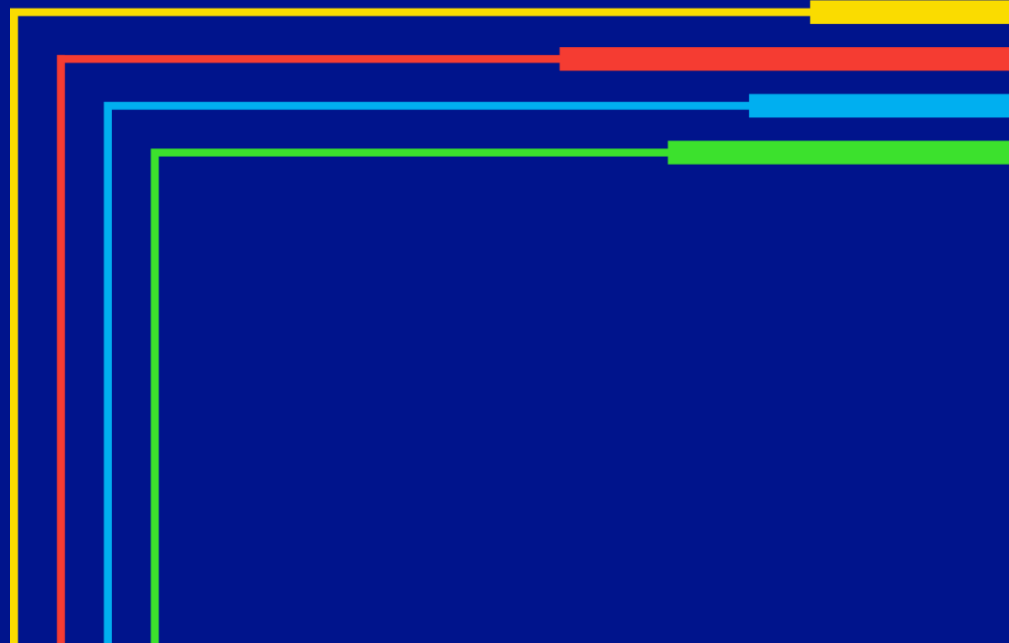
Entry User Commitment

- Ofgem [decision](#) to grant a derogation from the requirements for an independent examination as per Special Condition 9A.7 of the NTS Gas Transporter Licence
- Consultation will be prepared and published as soon as is possible.

03

Review of Exit Regime

nationalgrid



Review of Exit Regime: Next Steps

- Identify the needs of different market participants (*test with Transmission Workgroup today*)
- Development of underpinning principles
 - Identification of principle based questions (*test with Transmission Workgroup today*)
 - Industry workshop to define the principles
 - Send out invite (also providing opportunity to identify any additional principle based questions)
- Develop options and potential solutions for the development of the exit regime which will deliver the needs to market participants whilst building on the foundation principles
 - Timescales for change identified
 - No regrets solutions accelerated

Review of the Exit Regime: Needs of different market participants

Power Stations	<ul style="list-style-type: none">- CCGT's want to be able to react quickly and flexibly to the electricity market- Shorter term, flexible products to be available so capacity is available when needed- Increased flexibility in capacity products to profile capacity to flows
Storage	<ul style="list-style-type: none">- Want to be able to react to market price and therefore more active in shorter term auctions
Industrial & Commercial	<ul style="list-style-type: none">- Want a reliable baseload of capacity for a continuous offtake- Long-term capacity and price certainty
Interconnectors	<ul style="list-style-type: none">- Shippers active at IPs want to be able to react to market price differential between GB and the continent- The domestic regime needs to effectively interact with the regime for interconnectors
Distribution Networks	<ul style="list-style-type: none">- 1 in 20 peak demand obligations to meet, requiring capacity certainty but not necessarily all long term- Flexibility to amend the long-term bookings / location of bookings as demand forecasts are refined- Greater access to unsold capacity
Embedded Generators	<ul style="list-style-type: none">- Ability to book capacity directly from NTS to enable increased to book capacity according to flows
National Grid	<ul style="list-style-type: none">- Fulfilment of Gas Act obligations – no undue discrimination to access to the NTS; efficient network planning- Revenue certainty- Enabling ease of access to NTS

Review of Exit Regime: Principles / Questions

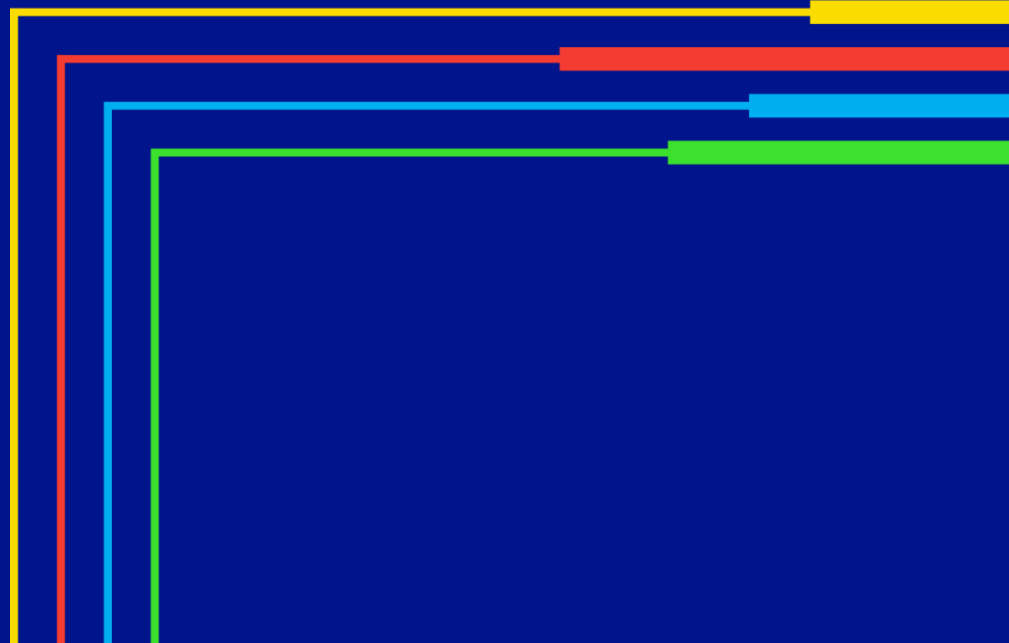
Industry:

- Could / should there be different rules for different market participants?
- What's due and what's undue discrimination?
- Parties not connected to the NTS able to buy NTS capacity?
- What is the principle of capacity? "Ticket to ride" still appropriate?
- Could there be different rules in different locations according to capacity scarcity?
- What is the most appropriate way to signal new capacity?
- **National Grid:**
 - Where are the areas of capacity scarcity in the network?
 - How are booking behaviours changing with the introduction of the Gas Transmission Charging Review and what impact does this have on capacity regime?
 - Are there alternative methods for long-term network planning rather than capacity bookings?

04

Exit User Commitment

nationalgrid



Exit User Commitment Reduction

National Grid will propose a reduction of the Exit User Commitment period for capacity within baseline from 4 to 2 years on the following grounds:

- NTS requires consistent capacity signals for the purpose of network planning
- Maintaining 2 years of commitment to baseline capacity provides an element of protection from inefficient substitution for Users active at the substitution donor point. The commitment period will be in line with substitution timescales
- 2 year User Commitment period will have less negative impact on volatility of charges

This solution will provide greater flexibility to amend long-term enduring capacity bookings. It will provide a basis for further flexibility to potentially be provided through other mechanisms to be identified through the wider review.

The next steps to progress the change will be:

- National Grid to propose revised legal text for the methodology change
- Send a letter to Ofgem requesting derogation from independent examination of methodology change

Bookings above baseline

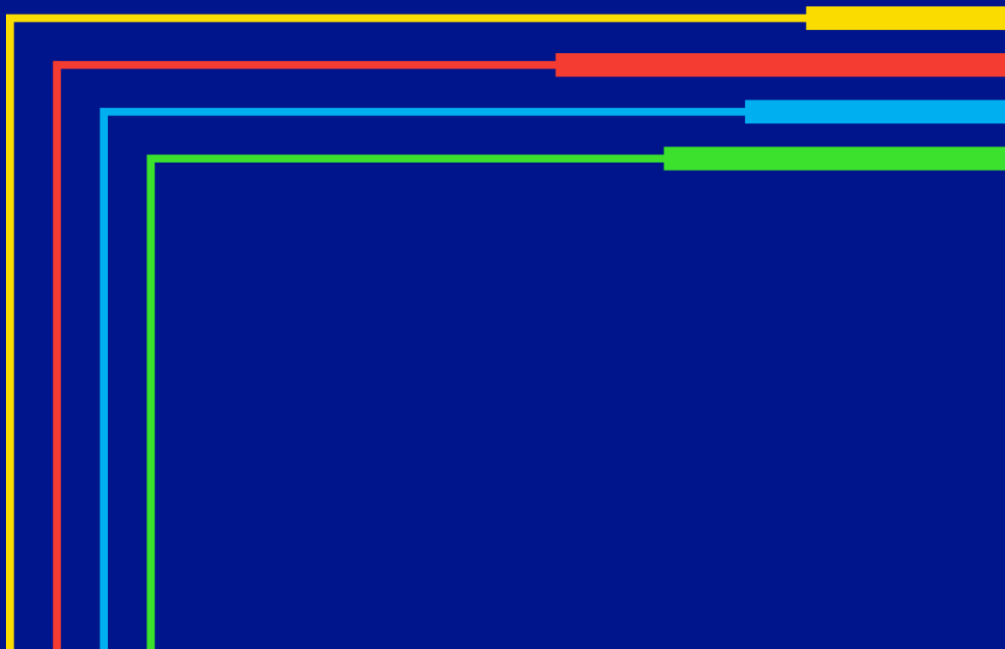
In the absence of NPV test on exit, the User Commitment for Enduring capacity bookings triggering substitution and funded incremental will continue incurring 4 year User Commitment based on the whole booking.

Offtake baseline 100 units	Users	Capacity booked	User Commitment duration	User Commitment amount
Scenario 1	User A	90	2 years	90
Scenario 2	User A	90	2 years	90
	User B	50	4 years	50 (<i>full booking, not only the incremental amount</i>)

05

Substitution

national**grid**



Substitution

Action 1003: National Grid (ASt) to investigate basis on which 3:1 exchange rate was established and whether it would pass an economic and efficiency test today.

- ExCS Methodology (para. 27) National Grid will consider information received and will determine whether additional Exit Capacity requests can be satisfied by the substitution of Substitutable Capacity from other NTS Exit Points. The overriding factor in such consideration will be to **minimise the amount of investment** that is required to satisfy incremental demand for Exit Capacity, **without increasing** the assessed **risk** of incurring other costs, e.g. operational costs or capacity buy-back costs, to meet National Grid's capacity obligations in respect of other NTS Exit Points and of NTS Entry Points.
- At the time substitution methodology was developed there was a general industry consensus that there should be a limit on exchange rates to avoid capacity destruction. Ofgem's approval letter states: '*We consider that the exchange rate cap of 3:1 represents a reasonable compromise which permits substitution whilst preventing excessive loss of capacity rights.*'
- Assessment of current cap 3:1 is best conducted by looking at historically applied exchange rates. Only on rare occasions exchange rate worse than 2:1 was used in substitution. NTS finds enough unsold capacity before the necessity of considering donors with less favorable exchange rates.

Substitution – recent exchange rates

PARCA	Capacity Signal Received kWh	Capacity Donated kWh	Donor Site	Exchange rate
Grain North	5,981,040	2,763,893	Shorne	1.0549 : 1
		4,160,000	Stanford Le Hope	1.2388 : 1
Saltholme	7,310,160	3,237,148	Billingham ICI (Terra Billingham)	1.1086 : 1
		4,860,000	Enron Billingham	1.070 : 1
Staythorpe	82,000,000	1,070,148	Silk Willoughby	0.7927 : 1
		20,480,000	Peterborough Power Station	1.3829 : 1
		7,826,972	Tatsfield	1.3573 : 1
		37,509,029	Farningham B	1.4886 : 1
		48,496,593	Farningham	1.4779 : 1
		4,710,000	Shorne	2.2855 : 1
Drax	1,846,952	1,816,952	BPHP Saltend	1.1026:1
		44,105	Rawcliffe	1.0055:1
Peterborough Eye	1,812,621	3,004,782	Mappowder	1.6577:1
Tilbury Marshes	17,301,946	17,300,000	Tatsfield	0.9999:1
TOTAL	116,252,719	157,279,622		

This table summarises 'live' PARCAs since January 2018.

Substitutions conducted to date helped to minimize the need for investment on the network. The cap exchange rate ensured that a minimum capacity is distorted and ensured the level of risk in terms of NTS incurring additional costs as an outcome is diminished. Based on the above we can conclude that 3:1 cap would pass the economic and efficiency test today.

Using less favourable cap:

- Might have negative impact on new market participants in the vicinity of the donor site
- Would lead to less efficient solutions in terms of preserving capacity

Disconnected sites – analysis

National Grid conducted analysis to establish what difference prioritising disconnected sites with existing baseline in the substitution process would make if used in the past. The following data was taken into account / assumptions were made:

- We looked at 'live' PARCAs and exit substitution since January 2018 at exit points only (as of 02/10/20)
- We considered prioritising 3 disconnected sites with largest unsold capacity values
- 3:1 exchange rate was assumed in some cases by implication from previous analysis
- The actual timeline for receiving and completing PARCAs was followed

The next 2 slides demonstrate the skeleton of findings. Spreadsheet with full analysis can be downloaded from the Joint Office website.

Disconnected sites prioritised within zone, exchange <3:1

PARCA	Capacity Signal Received kWh	Capacity Donated kWh	Exchange rate		Disconnected Prioritised	Exchange rate
A	17,301,946	17,300,000	0.9999:1		19,060,000	1.1018:1
B	5,981,040	2,763,893	1.0549 : 1		7,780,000	1.3008:1
		4,160,000	1.2388 : 1			
C	7,310,160	3,237,148	1.1086 : 1		8,099,657	1.1080:1
		4,860,000	1.070 : 1			
D	2,201,700	250,000	1.1074 : 1		2,050,000	1.1074:1
		1,800,000	1.1074 : 1			
						Difference (kWh/d)
TOTAL	32,794,846	34,371,041			36,989,657	2,618,616

In this scenario:

- The difference between the actual capacity donated and capacity which would have been donated if disconnected site was prioritised is 2,618,616kWh/day
- 2 out of 3 disconnected sites meet the 3:1 cap criteria

Disconnected sites prioritised within zone, regardless of exchange

PARCA	Capacity Signal Received kWh	Capacity Donated kWh	Exchange rate	Disconnected Prioritised	Exchange rate
A	17,301,946	17,300,000	0.9999:1	19,060,000	1.1018:1
B	1,812,621	3,004,782	1.6577:1	5,440,000	3:1
C	82,000,000	4,710,000	2.2855 : 1	34,090,000	3:1
		1,070,148	0.7927 : 1	1,070,148	0.7927 : 1
		20,480,000	1.3829 : 1	20,480,000	1.3829 : 1
		7,826,972	1.3573 : 1	7,826,972	1.3573 : 1
		37,509,029	1.4886 : 1	37,509,029	1.4886 : 1
		48,496,593	1.4779 : 1	34,750,000	1.4779 : 1
D	7,310,160	3,237,148	1.1086 : 1	8,099,657	1.1080:1
		4,860,000	1.070 : 1		
E	2,201,700	250,000	1.1074 : 1	2,050,000	1.1074:1
		1,800,000	1.1074 : 1		
F	1,846,952	1,816,952	1.1026:1	91,000,000	3:1
		44,105	1.0055:1	1,816,952	1.1026:1
				44,105	1.0055:1
	(64,953,048)	Incremental Obligated		(34,605,610)	Incremental Obligated
					Difference (kWh/d)
TOTAL	112,473,379	152,405,729		263,236,863	110,831,134

In this scenario:

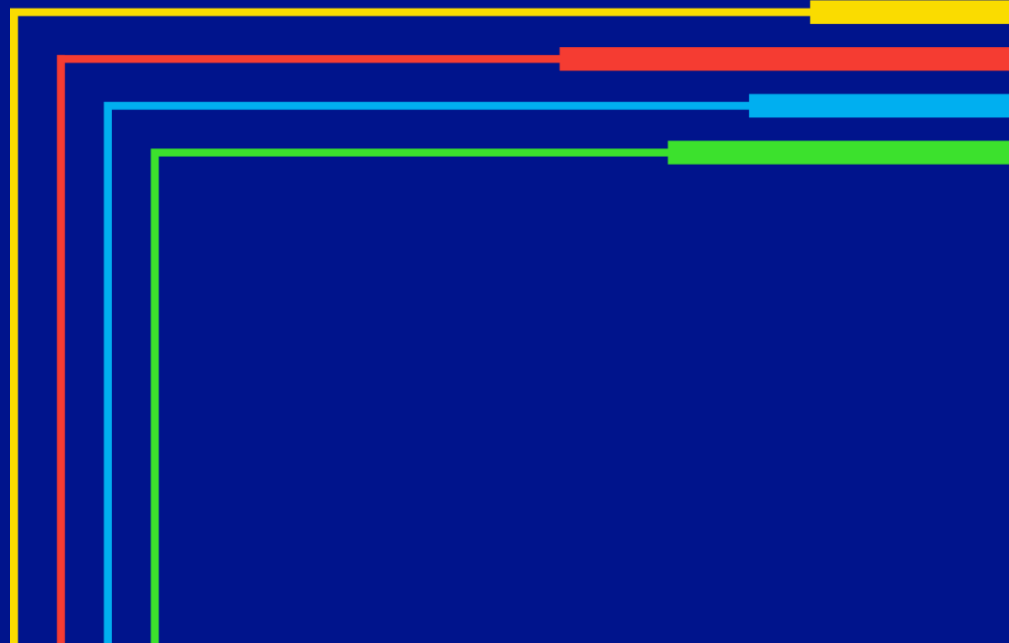
- The difference between the actual capacity donated and capacity which would have been donated if disconnected site is prioritised is 110,831,134kWh/day
- All 3 disconnected sites contributed as donors.
- Where 3:1 exchange rate (or worse) was used, the donated quantity contributed less efficiently to fulfilling the overall capacity signal request at the recipient site

N.B. Disconnected donating sites are in bold

06

Product Development

nationalgrid



Daily Exit Capacity Product Action 1004 Product Development – Workgroup to provide comments to National Grid on requirements for a short-term firm product.

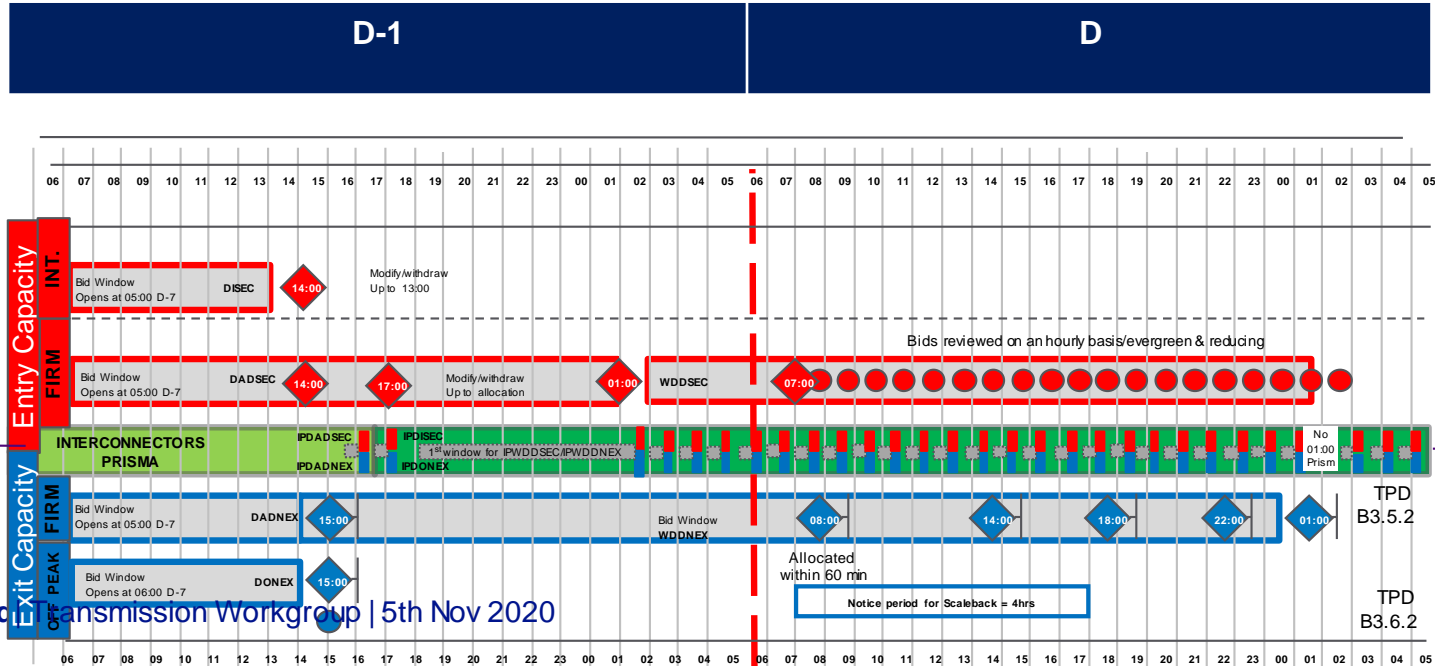
PRISMA within day firm products (IPWDDSEC/IPWDDNEX):

Auctions every day, beginning at the full hour

Auction finishes 3.5hrs before product runtime

First Window: Auction Start Time 18:00hrs D-1 – Close Time 01:30hrs D-1then at each full hour...until

Last Window: Auction Start Time 00:00hrs D – Close Time 00:30hrs D for the allocation time 04:00-05:00 of the same gas day



Daily Exit Capacity product

Could the current WDDNEX product do what Users are requesting?

Frequency of auctions (*no change required?*)

UNC TPD Section B, Paragraph 3.5:

3.5.1 “Users may apply for Daily NTS Exit (Flat) Capacity in respect of an NTS Exit Point in respect of a Day by submitting daily capacity bids in accordance with the provisions of Annex B-1”

3.5.2 “For the purposes of Annex B-1, in relation to the capacity invitation pursuant to this paragraph 3.5 in respect of Day (D):...”

Annex B-1 states “references to a “**capacity invitation**” is where (pursuant to Section B3.5, 3.6 and 3.11) Users are entitled to submit bids or offers **without the issues of such a specific invitation**”

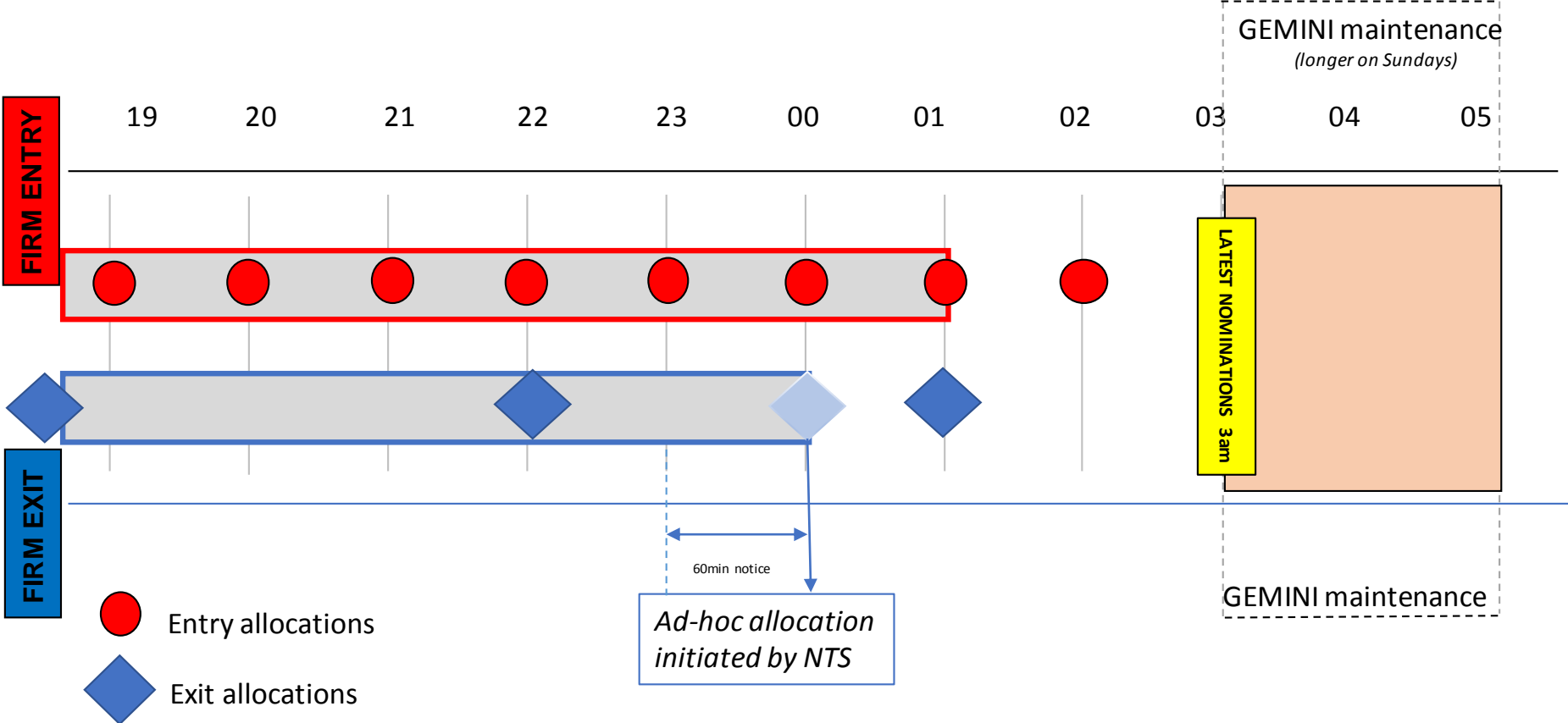
Frequency of allocations (*increase in frequency required?*)

UNC TPD Section B, para 3.5.2(a) “there will be a capacity allocation period commencing at:

- (i) 15:00 hours on Day D-1
- (ii) 08:00; 14:00; 18:00; 22:00; and 01:00 hours on Day D”

3.5.2(b) “**National Grid NTS may elect** to have one or more further capacity allocation periods, commencing at any time (up to but not later than 02:00 hours) on Day D, by giving notice to Users not later than sixty (60) minutes before the commencement of each such capacity allocation period”

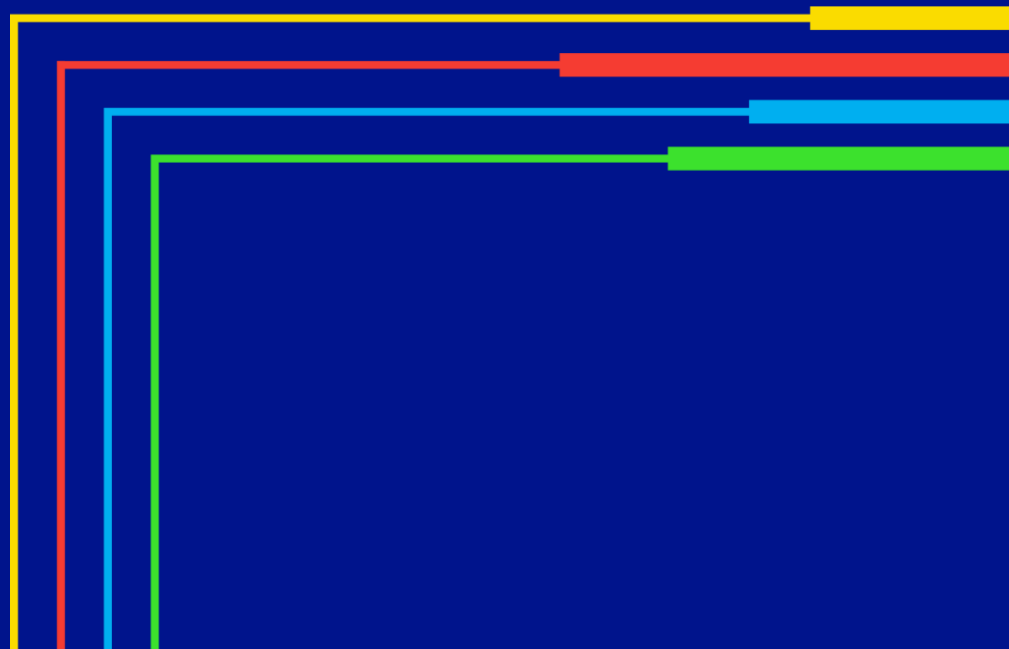
End of the Gas Day Timeline



07

Secondary Capacity Assignments

nationalgrid



Progress

Over the past few weeks NG has been;

- Establishing our position on the assignment of existing contracts (with Legal input)
- Understanding the practicalities of introducing assignments of entry capacity
- Defining NG's position on the granularity of entry capacity assignments that could be achieved
- Assessing system impacts and associated timescales for possible implementation
- Understanding credit impacts of entry capacity assignments

We are currently finalising NG's position on the following;

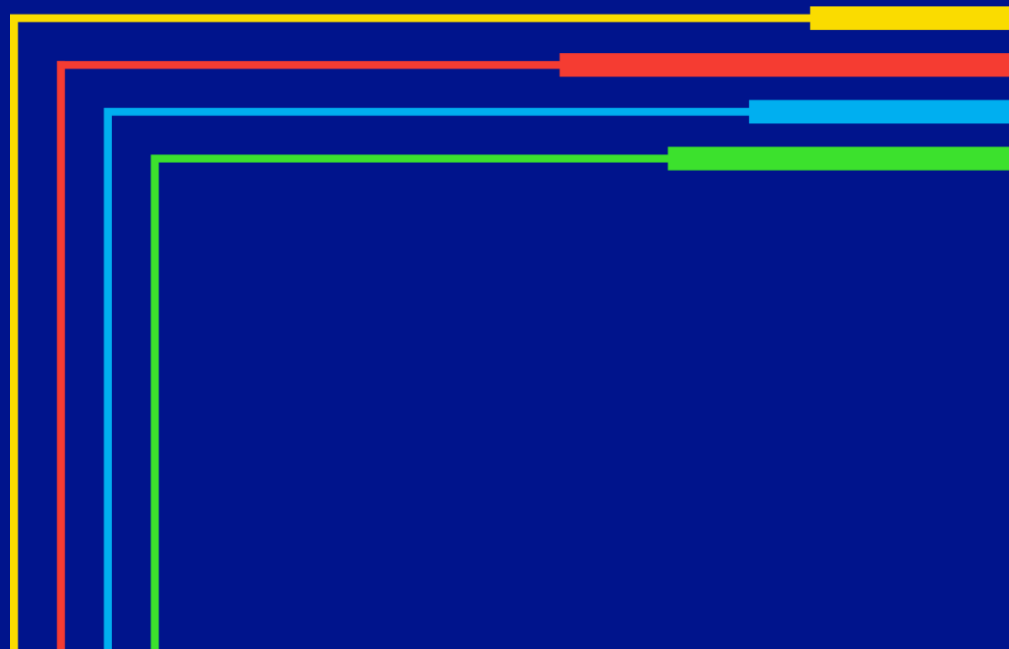
- Granularity of volumes of capacity which can be assigned
- Existing Contracts
- Xoserve possible implementation timescales (exploring with Xoserve whether any of the work done for Mod 0276 can be used to expedite the process)

Ambition is for pre-mod discussion at December Transmission Workgroup

09

**AOB: Entry
products
suitability for LNG**

national**grid**



LNG problems with System Entry Capacity Auctions

- LNG requires access to SEC at more flexible timescales and volumes than currently structured
- Most auctions sell capacity in advance, for flat gas send-out profiles
 - Unreflective of the realities of LNG deliveries and LNG cargo diversion timing
 - Unreflective of how a flexible asset (such as an LNG Terminal) can operate
- The timing and volume constraints around the DSEC auction result in reliance on the MSEC auction
 - In the event of planned or unplanned maintenance or due to low NTS demand, DSEC is not always available
 - Therefore, industry believe that DSEC auction cannot be relied on for delivery of a full LNG cargo
- Therefore LNG is likely to be restricted to booking MSEC capacity, however;
 - LNG cargos cannot always be sent out in flat monthly strips which could result in an over-purchase of capacity (results in increased delivery costs for LNG suppliers)
 - Doesn't give the LNG producer / marketer the flexibility to divert the cargo up until the set sail date which could reduce the attractiveness of the GB market (unneeded capacity increases diversions costs)
- Changes from commodity to capacity charging means charges are committed to ahead of flow

LNG requirements of System Entry Capacity Auctions

- Certainty of access to capacity
- Purchase capacity to reflect gas delivery schedule
- Diversion costs should be minimal and cost-reflective to ensure the GB market remains competitive

Options proposed by South Hook Gas:

- Daily quantities of capacity across a month
- Weekly auctions
- Rolling auctions (i.e. 7 – 30 days of capacity from D + 1)
 - This could be a month long period from any point within the month
- Flexible SEC purchases
 - Capacity purchased in MSEC, which can be flexed day ahead / within day
 - Tolerance (+/- x%)
 - Aggregate monthly capacity

national**grid**