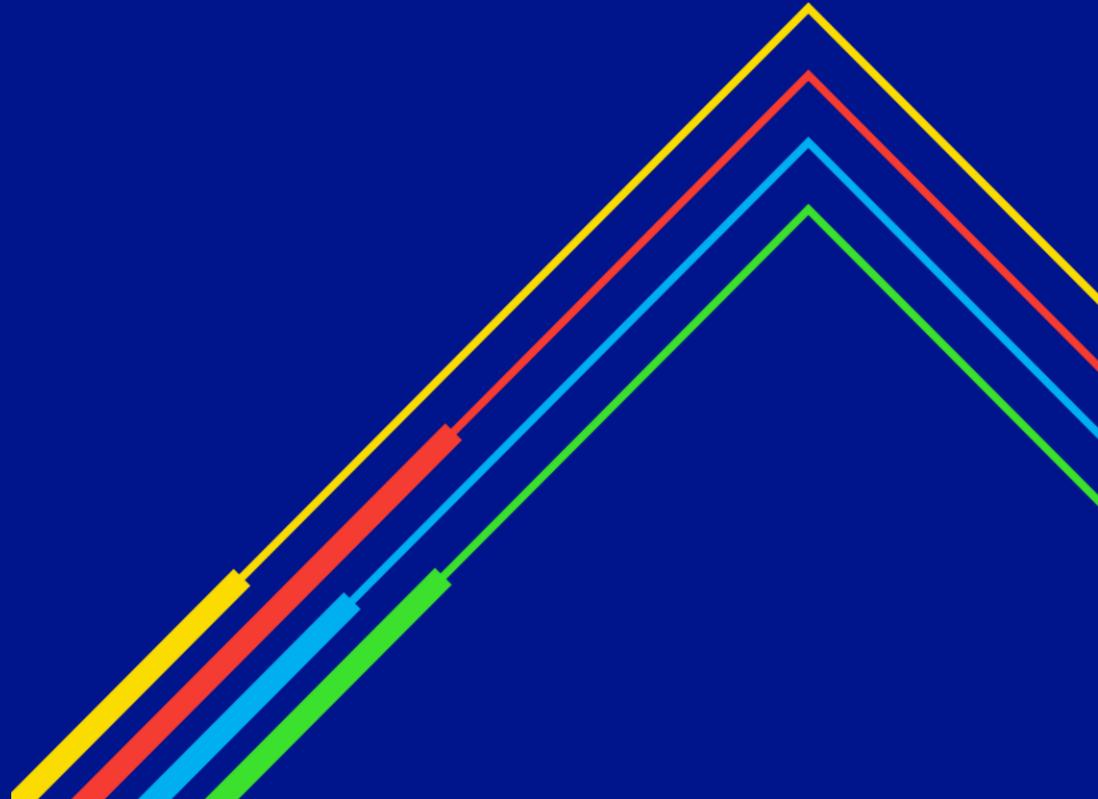


Capacity Access Review

UNC 0705R Workgroup

8th December 2020

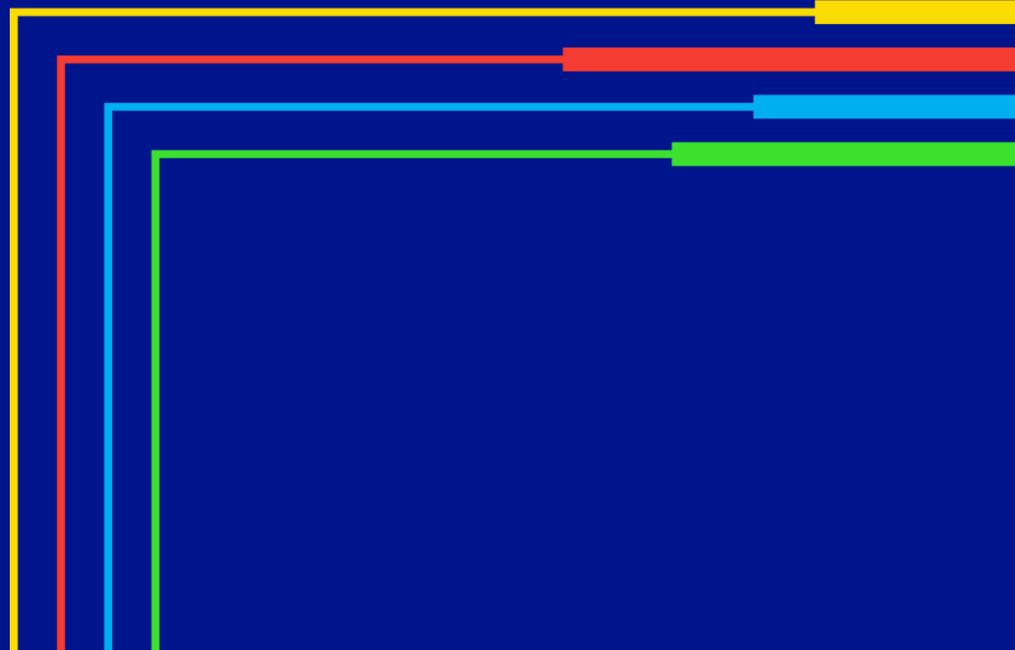
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02

Review of Exit Regime

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Review of exit regime

1. Identification of needs of different market participants (we've developed this with Tx WG)
2. Identification and resolution of various “principles” that will underpin a future regime
3. Development of the constructs of a future regime (this could be mirroring entry, zonal, alternative ways of long-term network planning etc.)

Held Industry Workshop to discuss various “principles” questions

Principles: different rules for different market participants

Could / should there be different rules for different market participants?

- On what grounds could there be different rules for different participants?
- What areas could / should there be different rules in?

What is due / undue discrimination?

- Legal view on due and undue discrimination

Should network costs be based on what each party values?

- How would this be determined and apportioned?

Principles: access to the NTS

National Grid currently requires financial commitment to long-term capacity bookings to ensure that network capability can be provided and for Users to secure their capacity requirements.

Could there be an alternative way of providing financial commitment to long-term NTS capability requirements? Or;

Financial commitment continues to be provided through capacity bookings but more flexibility is created in the regime to mean that capacity can be used in a different way?

- How could that flexibility be created?

What is the most appropriate way to signal new capacity?

Principles: capacity as a concept

Capacity as a product (the right to offtake gas); capacity as a concept (ability to flow gas from the NTS)

What is the principle of capacity as a concept?

- Is “ticket to ride” still appropriate?
- Is a regime which treats capacity as a competitive product still appropriate?

Is capacity still the scarcity that it used to be (or thought it might become)?

- National Grid doing a piece of work to determine scarcity of capacity in different locations on the NTS

If capacity is no longer a scarcity (locationally) how could this change the constructs of a exit capacity regime?

Principles: access to NTS capacity for non NTS connected parties

Distribution network connected power stations able to purchase capacity directly from the NTS so they have access to more flexible capacity products

Should a party (parties) be able to book capacity from a system they are not offtaking gas from?

- What would be the impact on the system they are offtaking gas from?

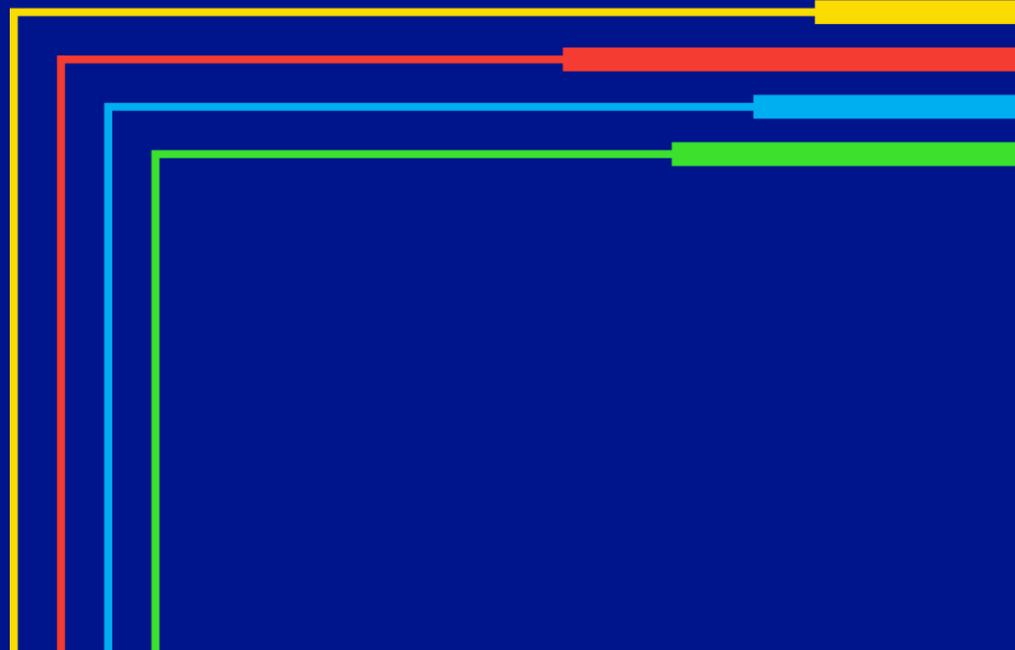
Should focus be on changes being made to arrangements with the system they are offtaking gas from?

Should all parties be able to purchase NTS capacity regardless of the system they are connected to?

03

Substitution

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Zones – definitions

New Action 1103: Substitution Progress - National Grid to explain the difference between geographical zones, analysis zones and LDZ zones and clarify which definition of zone is used in the exit substitution methodology statement.

Local distribution zone - is a pipeline system (other than the NTS), the conveyance of gas in which is authorised by a relevant Gas Transporter's Licence held by the owner or operator of such pipeline system (UNC Section A 1.2.2). The zones are defined by the Notice of Gas Transmission Transportation Charges.

Linepack zones - used for operational purposes by the Gas National Control Room to manage the safe and efficient operation of the network whilst ensuring that contractual obligations are met (para.173 ExCS).

NTS Exit Zone - defined as a section of the NTS that encompasses a number of NTS Exit Points. The boundaries of these NTS Exit Zones are defined by distinct pressure boundaries relating to the geographical location of the compressors, regulators and multi-junctions connected to the NTS. (para. 174 ExCS).

Exit substitution analysis zones – 'defined' by the Exit Capacity Substitution Methodology (ExCS) rules, geographical location may vary depending on the direction of flows, forecasted demand, pipeline distance and suitability of exchange rates when substitution analysis are being conducted.

Entry substitution zones - ASEPs are grouped into zones within Entry Capacity Substitution Methodology (ECS) and used for the identification of potential donor ASEPs due to their interactivity with the recipient ASEP.

Exit substitution zones

Exit Substitution Methodology states that the purpose of analysis is to 'identify the optimum Non-incremental Obligated Exit Capacity decreases to maximise the reduction in required investment' (para 31).

- Substitutions from individual donor NTS Exit Points will commence by reducing the capacity at the **most favourable NTS Exit Point** that has Substitutable Capacity. The most favourable NTS Exit Point will normally be, and is assumed to be, the **furthest downstream** NTS Exit Point from the recipient NTS Exit Point as measured by **pipeline distance**. The furthest downstream is selected as it is assumed to provide the **lowest exchange rate** so should result in the most efficient outcome (para. 34).
- NTS Exit Point may **move from being upstream to downstream** as a result of substitution of capacity at a previous donor NTS Exit Point (para. 35).
- Potential donor NTS Exit Points shall be ignored where they are too far downstream (or upstream) to provide a benefit to the recipient NTS Exit Point. This will be determined by the application of the **exchange rate cap** (para. 36)
- Where there is insufficient capacity at the first donor NTS Exit Point to fully satisfy the Incremental Exit Capacity required at the recipient NTS Exit Point the quantity of capacity that can be substituted will be substituted and **further donor NTS Exit Points will be considered** (para. 38)

Exit substitution zones

Para. 42 Subject to the mentioned criteria and the objective to reduce necessary investment, donor NTS Exit Points shall be selected in the sequence:

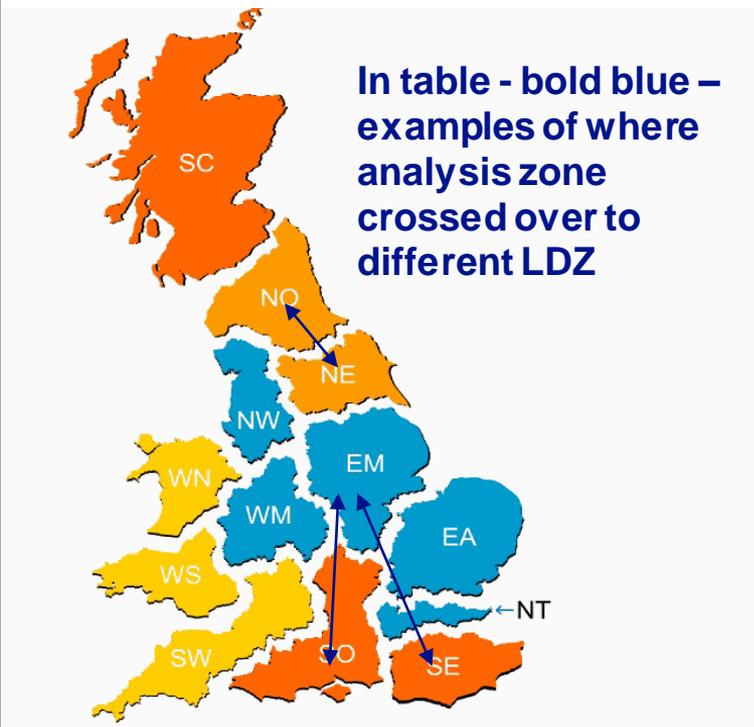
- Notional exit points;
- Downstream NTS Exit Points on the same feeder;
- Downstream NTS Exit Points on adjacent connected feeders;
- Upstream NTS Exit Points on the same feeder;
- Upstream NTS Exit Points on adjacent connected feeders.

On exit these rules will determine the geographical area of the analysis zone. *(NB. Entry Capacity Substitution Methodology groups ASEPs into zones which are used for identification of potential donors due to their interactivity with the recipient ASEP)*

Para. 45 (...)National Grid will not propose capacity substitution where this would result, under planning scenarios, in the capability of the NTS to meet existing obligations being reduced.

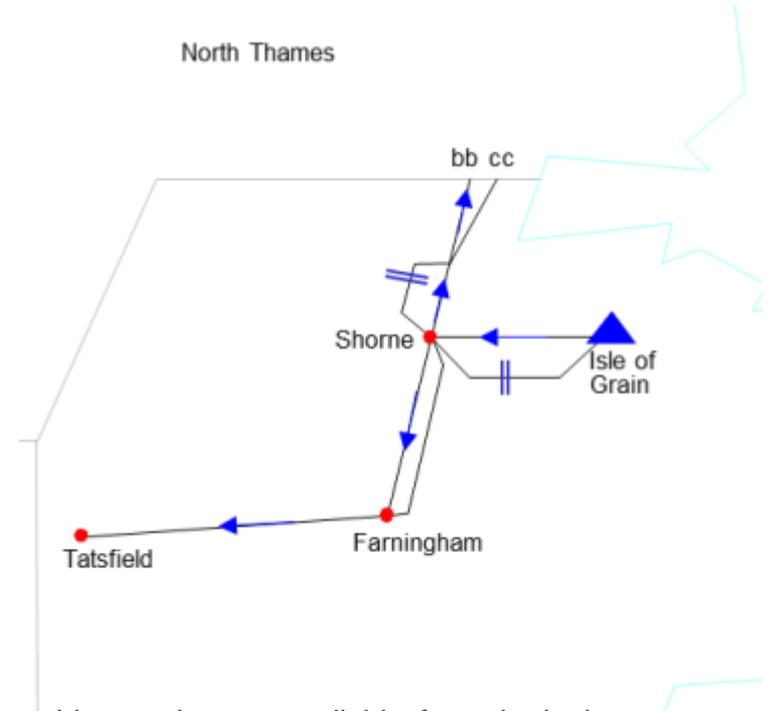
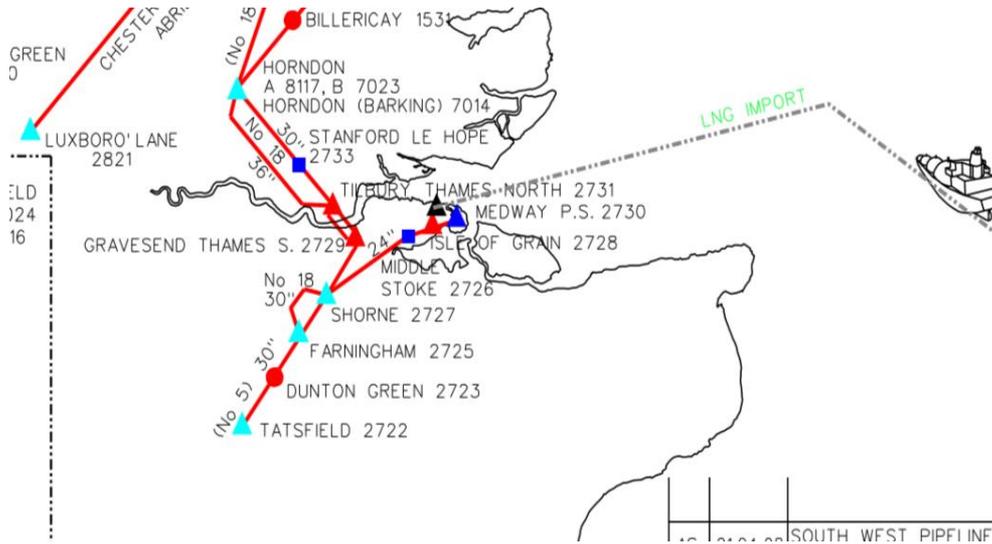
Substitution - analysis zones v LDZs

NO	Recipients	LDZ	Linepack zone	Donors	LDZ	Exchange rate	Linepack zone
1	GrainPS	SE	9	Shorne	SE	1.0549 : 1	9
				Stanford Le Hope (Coryton)	SE	1.2388 : 1	9
2	Rawcliffe	NE	3	Cowpen Bewley	NO	1.1074 : 1	3
				Enron Billingham DC	NO	1.1074 : 1	3
3	Saltholme PS	NO	3	Billingham ICI (Terra Billingham)	NO	1.1086 : 1	3
				Enron Billingham	NO	1.070 : 1	3
4	Balgray	SC	0	Careston	SC	01:01	0
				Drum	SC	01:01	0
5	Staythorpe PS	EM	5	Silk Willoughby	EM	0.7927 : 1	5
				Peterborough Power Station	EM	1.3829 : 1	5
				Tatsfield	SE	1.3573 : 1	9
				Farningham B	SE	1.4886 : 1	9
				Farningham	SE	1.4779 : 1	9
				Shorne	SE	2.2855 : 1	9
6	Drax	NE	3	BPHP Saltend	NE	1.1026 : 1	3
				Rawcliffe	NE	1.0055 : 1	3
7	Peterborough Eye	EA	5	Mappowder	SO	1.6577 : 1	7
8	Tilbury Marshes	SE	9	Tatsfield	SE	0.9997 : 1	9
9	Hirwaun PS	WS	6	Dowlais	WS	1.0806 : 1	6
				Tonna (Baglan Bay)	WS	1.1493 : 1	6



Grain Power Station

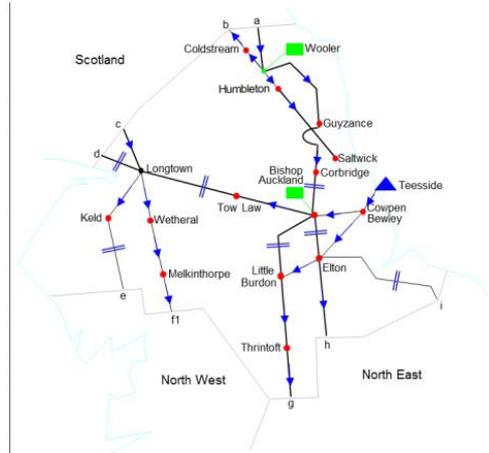
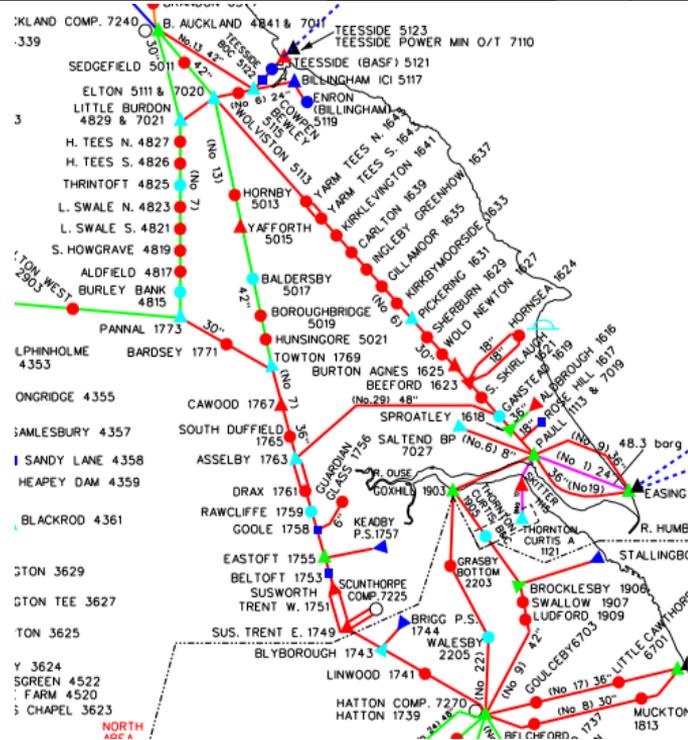
Recipient	LDZ	Donors	LDZ	Exchange rate
Grain PS	SE	Shorne	SE	1.0549 : 1
		Stanford Le Hope (Coryton)	SE	1.2388 : 1



No unsold capacity was available for substitution downstream of Shorne, recipient was chosen upstream for best exchange rate.

Rawcliffe

Recipient	LDZ	Donors	LDZ	Exchange rate
Rawcliffe	NE	Cowpen Bewley	NO	1.1074 : 1
		Enron Billingham DC	NO	1.1074 : 1



No unsold capacity was available for substitution on Feeder 7 (downstream towards the Hatton compressor).

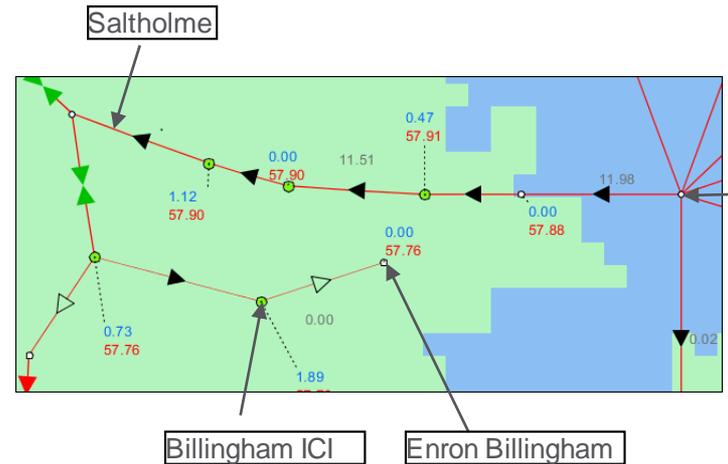
Only 2 other offtakes in the North East had unsold capacity available at the time of the analysis (on an adjacent feeder), and it was known from previous analysis that exchange rates were likely to be poor. Exchange rates were still tested at these 2 offtakes, but the most sensible place to also test exchange rates was deemed to be upstream.

Saltholme

Recipient	LDZ	Donors	LDZ	Exchange rate
Saltholme PS	NO	Billingham ICI (Terra Billingham)	NO	1.1086 : 1
		Enron Billingham	NO	1.070 : 1



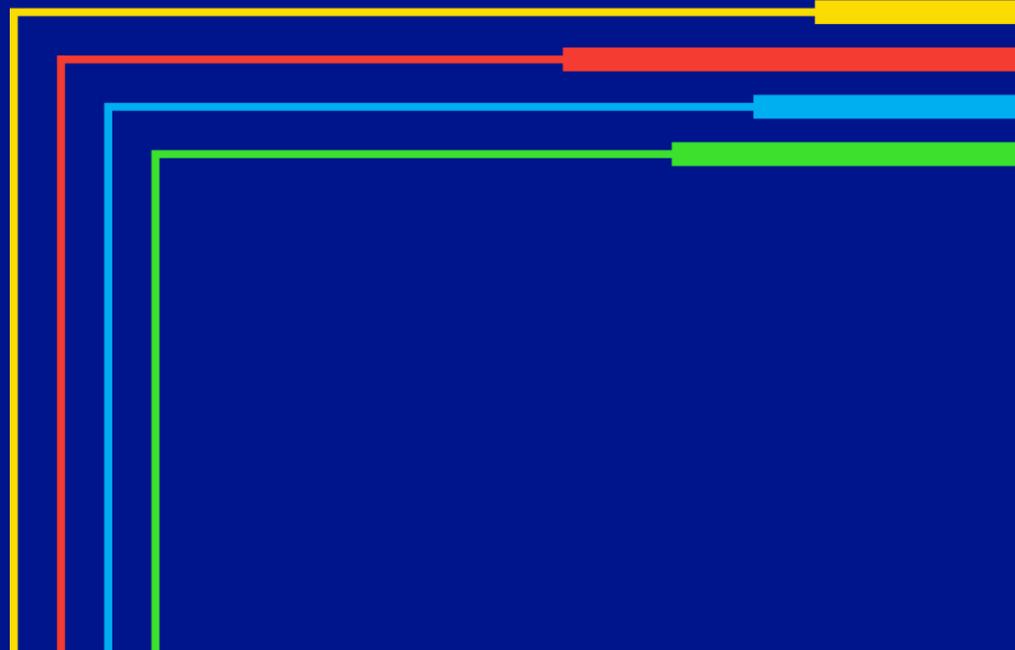
ICI Billingham, and Enron Billingham (the donors) are downstream of Saltholme.



04

Daily Firm Product Development

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Daily Firm Capacity product

Action 1105: Capacity Product Development - National Grid (JR) to provide more information about the maintenance window to explain why 2 hours are needed and to provide a) a view on whether the last allocation could be later in the Gas Day to meet industry requirements and b) to consider what the implications would be of having more frequent allocations throughout the day (including systems).

The industry feedback is that the current WDDNEX product doesn't give enough flexibility to align capacity bookings to flows. National Grid is assessing an impact of a number of possible product amendments based on the feedback received. These include:

On entry (WDDSEC)

- Addition of an allocation timeslot at the end of the Gas Day
- Extension to the request window being open (i.e. window to remain available for requests up until the last allocation)

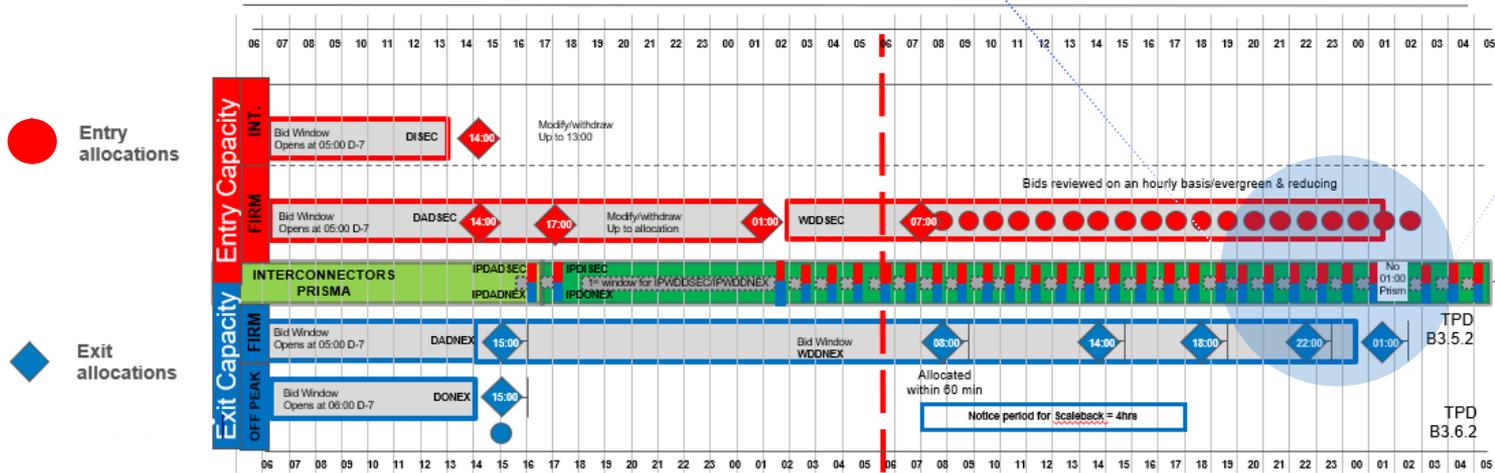
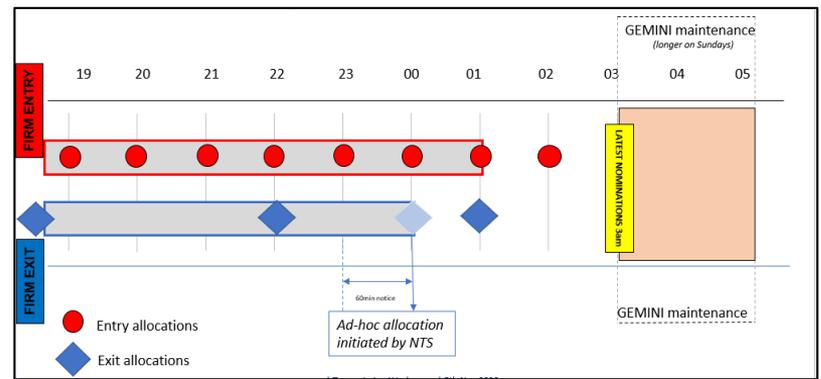
On exit (WDDNEX)

- More frequent/hourly allocations
- Addition of an allocation timeslot at the end of the Gas Day
- Extension to the request window being open (as on entry)

Daily Firm Capacity product

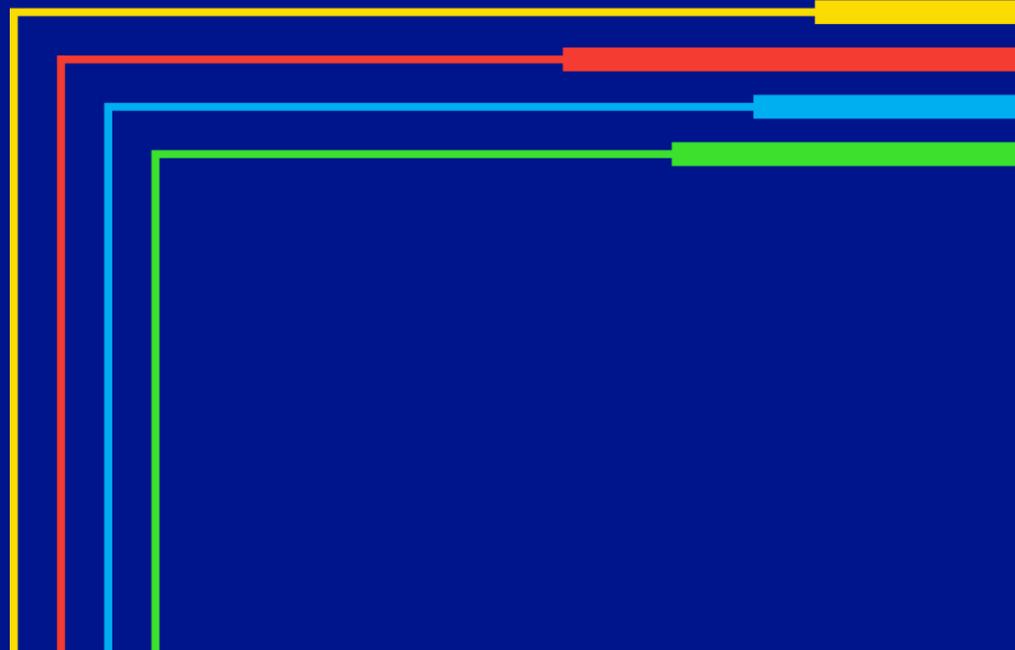
Maintenance window activity:

- End of Day batch jobs run in preparation for D+1 allocation processes
- Fixes, updates and deployments occur during this period



05

Entry products suitability for LNG



LNG problems with SEC auctions

1. Cargo might make a diversion and therefore not get delivered (**shippers** purchased capacity they do not need)
2. Cargo might arrive mid-month which would mean buying two monthly strips at MSEC (over purchase of capacity)
3. LNG send out profile is based on customers and flow might look different each day (flat monthly strips don't accommodate for this)

Maintenance planning

New Action 1106: Entry Products suitability for LNG – National Grid (JR) to understand whether maintenance and outage planning means that LNG cannot rely on the DSEC product and whether MSEC sales modify maintenance planning

- **There are 2 types of maintenance planning**
 - Planned/Forecast – shippers will have notice of this in maintenance plan
 - Unplanned/Imminent – issues which need to be addressed at short notice
- **Planned maintenance is scheduled around shippers to avoid times when flow is high**
 - NG does look at capacity bookings when planning maintenance activities, however some capacity bookings are unused so NG talk to affected parties to see when maintenance would have the least impact
- **National Grid publish an annual maintenance plan on 1st April**
 - Includes data on capability at Milford Haven site in each month of the year
 - Capability forecasts are based on the worst day of the month in worst case scenario – not indicative of capability for whole month
- **NG works to avoid restricting the release of capacity due to maintenance**
 - Some shippers could still flow intended amounts on the reduced capability, and maintenance might last only part of the day

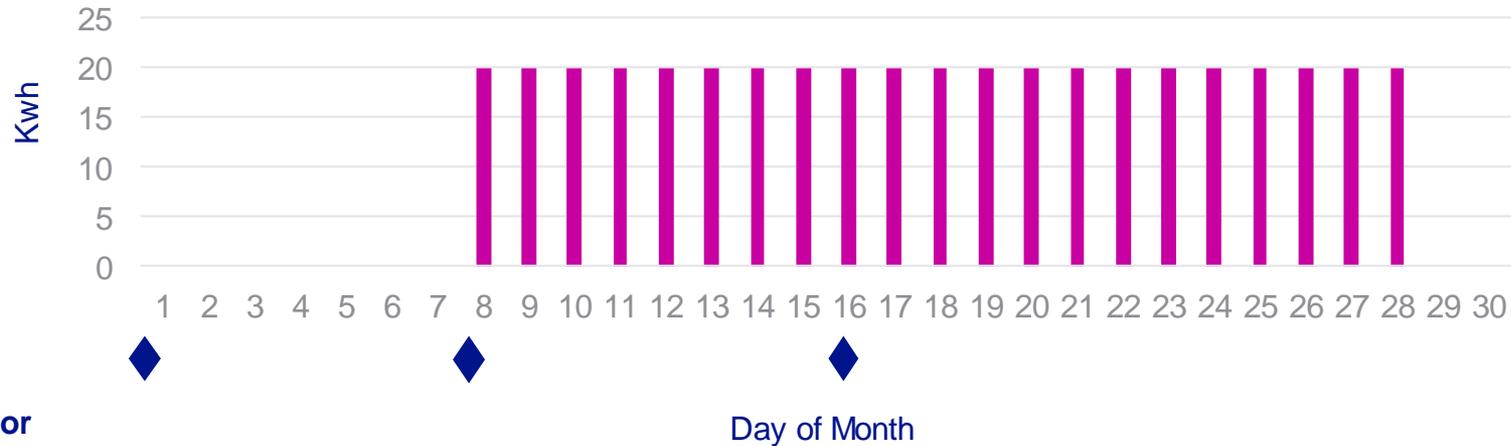
Options for products at SEC auctions

1. Weekly auctions
2. Book daily quantities of capacity across a month (no requirement for flat month at MSEC)
3. Monthly Flexible Start
4. Capacity purchased in MSEC, which can be flexed day ahead / within day
 - Tolerance (+/- x%)
 - Aggregate monthly capacity

Weekly auctions

Problem	Option 1	Option 2
1 late diversions	Green	Red
2	Green	Light Green
3	Yellow	Yellow

Book weekly quantities of capacity each week of the month



AMSEC or RMTnTSEC

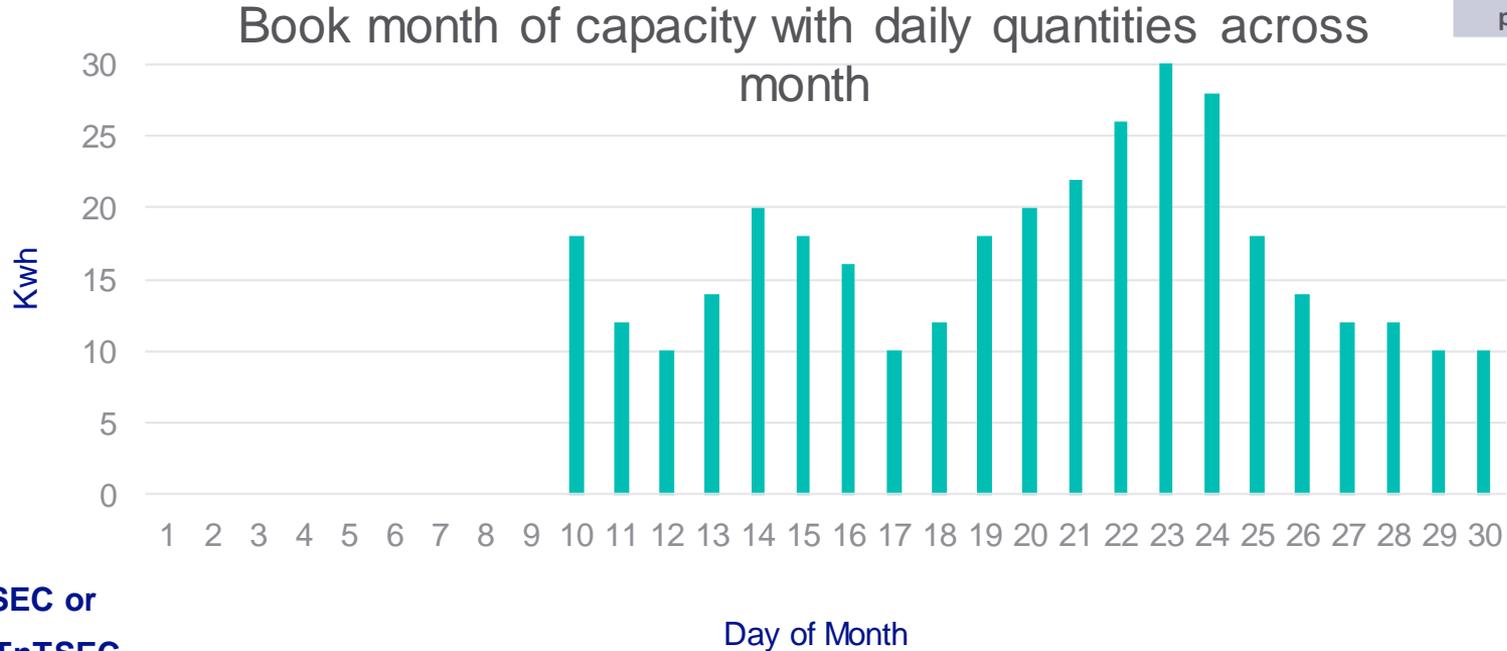
National Grid

◆ Option 1: Bid for weekly quantities a week ahead

◆ Option 2: Bid for weekly quantities at AMSEC or a month ahead at RMTnTSEC

Daily quantities of Capacity across month

Problem	
1 - diversion	Red
2 - mid-month	Green
3 - flex profile	Green



◆ AMSEC or RMTnTSEC

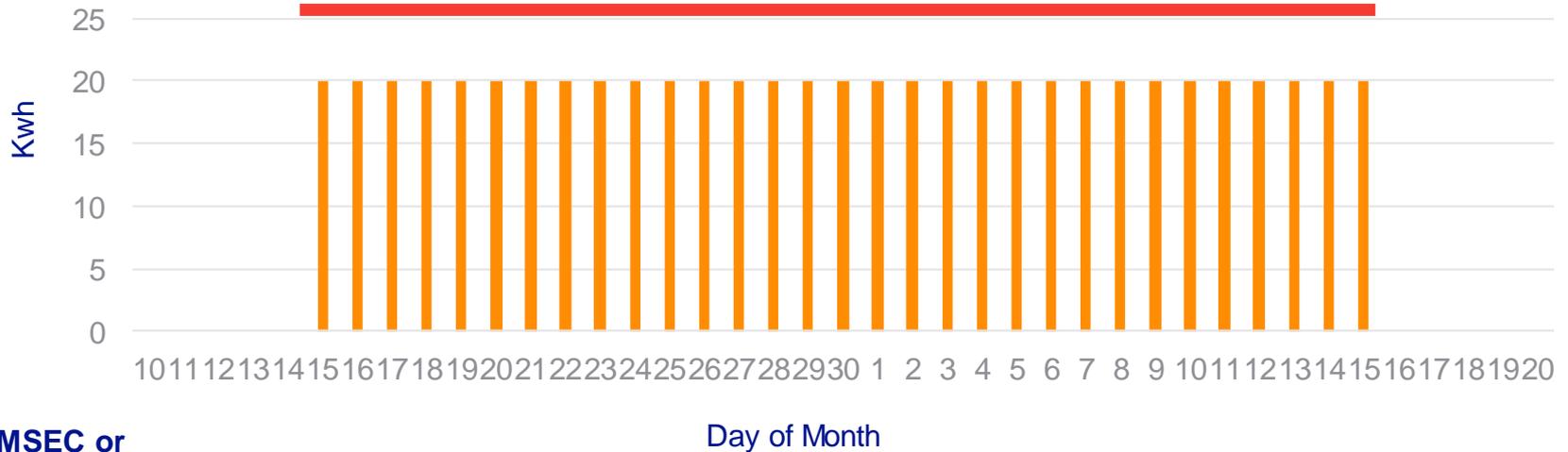
National Grid

◆ Book a month of capacity with daily quantities at AMSEC or RMTnTSEC

Monthly Flexible Start

Problem	
1 - diversion	Red
2 - mid-month	Green
3 - flex profile	Red

Book Capacity to start mid-month (on 15th) and run for a Month (till 15th)



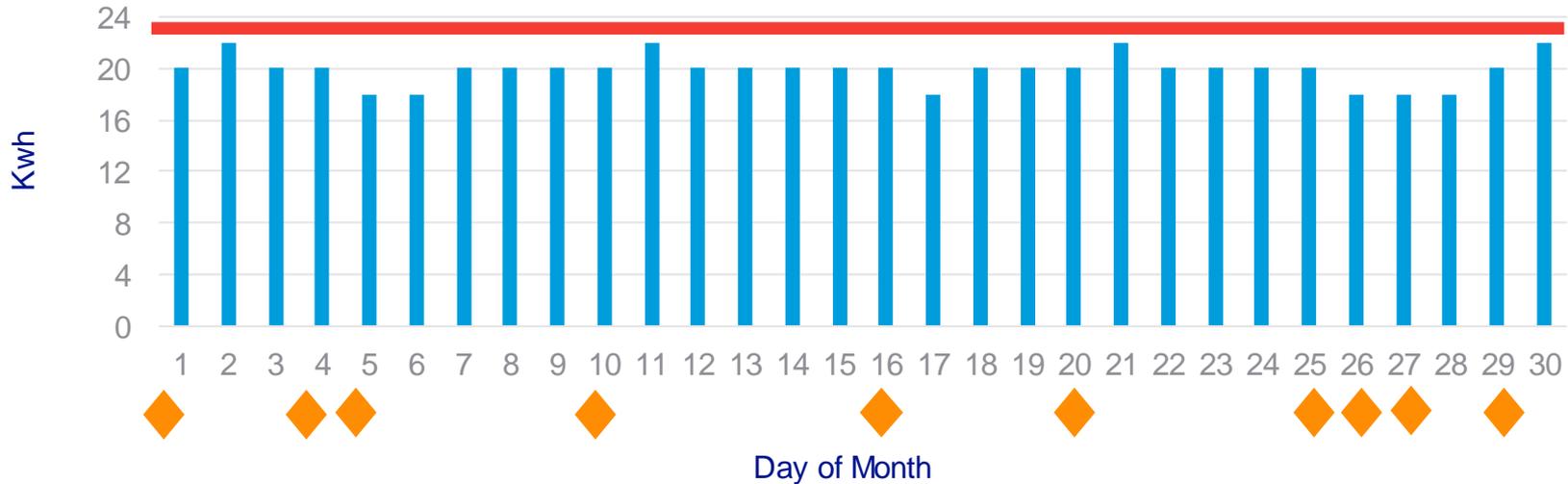
◆ AMSEC or RMTnTSEC

◆ Bid for capacity either at AMSEC or RMTnTSEC

Purchased Capacity which can be flexed

Problem	
1 - diversion	Red
2 - mid-month	Red
3 - flex profile	Yellow

600 units of capacity purchased for a month – quantities can be flexed by +/-10% at day ahead stage



◆ AMSEC or RMTnTSEC
National Grid

◆ Book aggregate amount of capacity at AMSEC or RMTnTSEC

◆ Notify of Flexed capacity a day ahead

Discretionary NTS Entry Capacity Release

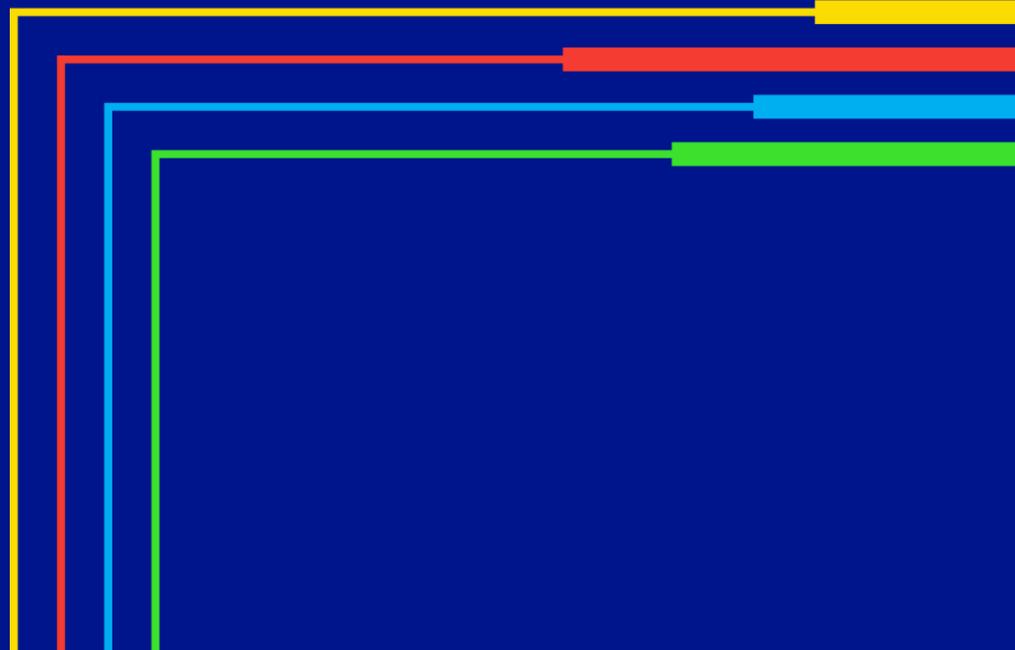
Section 2.1.14 UNC - Discretionary NTS Entry Capacity

- NG can invite applications for Entry Capacity at its own discretion
- The timing, quantities of capacity included and the terms for allocation are also determined by NG
- Discretionary Capacity will be available for no more than one Capacity Year
- NG will inform Users of accepted capacity bids 2 business day prior to the first day Users can flow
- Any Discretionary Capacity allocated will be included in the User's aggregate Available Entry Capacity

06

**AOB:
Methodology
Statements -
Review**

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Methodology statements – review

New Action 1102: Exit User Commitment Progress - National Grid (JR) to provide details of the indicative timeframe for the exit capacity release methodology statement consultation and also to discuss the potential next steps with Ofgem in relation to the need for a derogation from the independent examination for Exit

The NTS Gas Transporter Licence sets obligations on National Grid to produce statements setting out the various capacity methodologies.

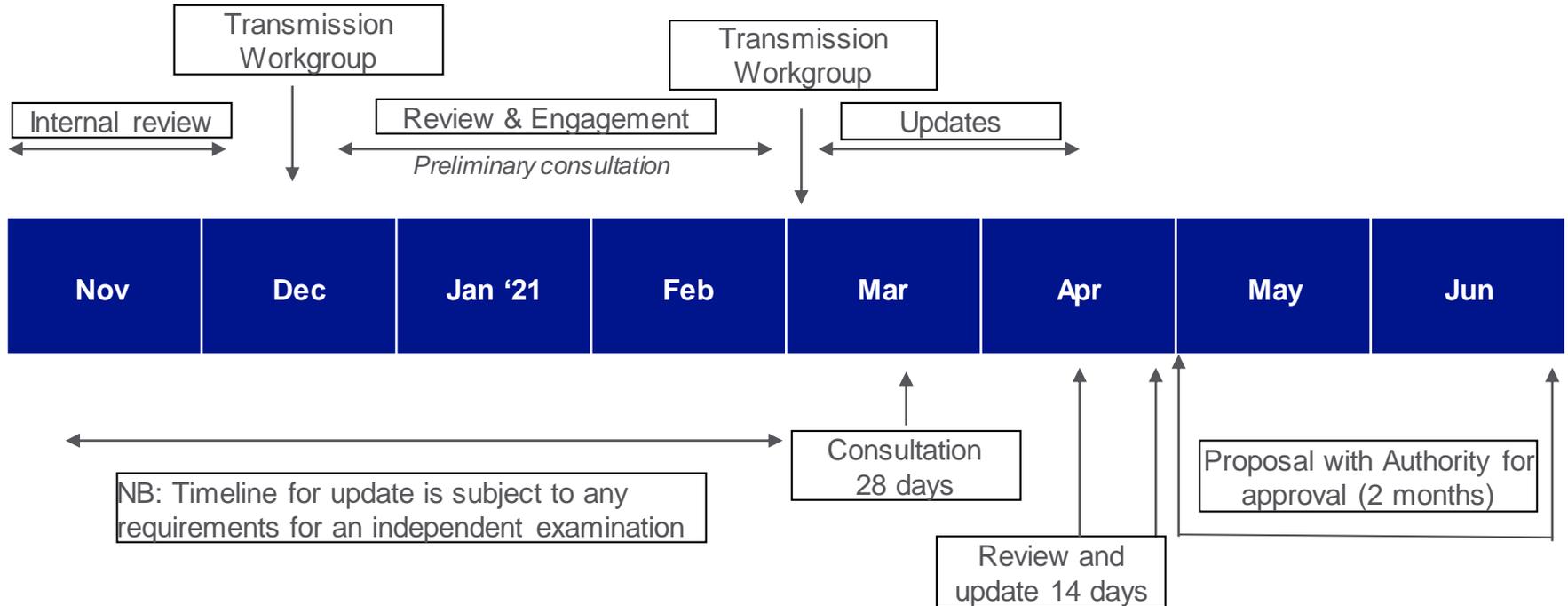
- ECR: Entry Capacity Release
- ExCR: Exit Capacity Release
- ECS: Entry Capacity Substitution
- ExCS: Exit Capacity Substitution and Exit Baseline Revision
- ECTT: Entry Capacity Transfer & Trade

Each statement must be consulted on at least once every 2 years. Current statements are effective as of 31st July 2019.

NG would will aim to:

- complete the next review by end of June 2021
- Incorporate changes agreed within CAR to Entry/Exit User Commitment/Substitution
- *NG is awaiting Ofgem's confirmation as to how the review ties into RIIO2 (timescales are subject to change and authority decision).*

Indicative Timetable 2020/21



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