



Modification 0845: Enhancements to DSR Arrangements including a D-5 Product

4th May 2023



Agenda

1. Summary of Modification
2. Panel questions
3. Extension of eligibility to class 2 consumers
4. Determination of demand reduction quantity
5. Additional option tender features
 - Frequency of exercise
 - Product optionality
6. Shipper obligations – DSR Options
7. D-5 Product

1. Mod 0845 Summary

Amendments to UNC to:

- Extend the eligibility criteria for consumer participation via a shipper (whether via a DSR Option or not) to include class 2 Consumers, thus enabling all daily metered (DM) Consumers via their Registered User to participate
- Amend the basis on which demand reduction is determined to have been delivered following exercise of a DSR Option from a reduction from a prevailing Output Nomination to a commitment not to flow above a minimum quantity*
- Enable Users to specify a maximum number of days on which a DSR option could be exercised
- Clarify the obligations on Users if DSR is exercised
- Deliver greater product optionality for Users and consumers in the DSR Options tender process
- Expand NGT's DSR Option Invitation to include D-5 DSR Options

* A 'reduce to' arrangement may only be capable of application to DSR Options directly contracted with consumers as explained on slide 7

Applies to directly contracted DSR options via Mod 0844?

No

Yes

Yes

No

Yes

Yes

2. Panel Questions

1. Consideration of communications arrangements with GDNs

DSR Option

- We propose to notify GDNs of any consumers within their network that have had DSR options accepted
- Propose that this would be captured in NGT's DSR Methodology which already provides for GDNs to be notified of any consumers that have been subject to DSR exercise within their network

2. Does the Modification introduce any risks to end consumers

- As the DSR market grows, the aggregate level of option payments is expected to increase and those options may not be exercised
- Potential risk of consumers that are subject to within day options 'front-loading' their offtake in a 'reduce to' regime

3. Eligibility Extension

- Extend the eligibility criteria for consumer participation via a shipper (whether via a DSR Option or not) to include class 2 Consumers
- All daily metered (DM) Consumers would therefore be able to participate via their Registered User

Class	Quantity of MPRNs	Aggregate Annual Quantity (kWh) (mcm)	Average Annual Quantity per MPRN (kWh) (mcm)	Aggregate Daily Capacity (kWh) (mcm)	Average Daily Capacity per MPRN (kWh) (mcm)
1	563	85,277,915,843	151,470,543	479,187,756	851,133
		7,827	13.90	43.98	0.078
2	701	8,720,429,381	12,439,985	74,251,054	105,922
		800	1.14	6.82	0.010

Potential Additional DSR Volume from Class 2 MPRNs

+5% of Class 2	35	436,021,469
		40
+10% of Class 2	70	872,042,938
		80

3,712,553
0.341
7,425,105
0.682

Implementation point:
The User may enter the unique meter ID for a class 2 supply point into the OCM. Provided that meter ID corresponds with a Gemini meter ID, the User may post the offer

4. Demand Reduction Quantity

- Some consumers have indicated that the current requirements for demand reduction if a DSR Option is exercised present a risk that they have to reduce their offtake to zero
- Mod 0845 proposes to move from a ‘reduce by’ arrangement to ‘reduce to’ for DSR options, meaning:
 - An end of day quantity is tendered that will not be exceeded in the event DSR is called
 - The ‘starting point’ is determined for the purposes of tender assessment based on the site’s average daily demand in the previous Winter Period (less any days on which demand was reduced either voluntarily by DSR exercise or involuntarily by NGSE)
 - Should a shorter timeframe be applied to exercise? (e.g. last 7 days (post exit close out?))
 - The DSR quantity is the ‘starting point’ minus the tendered end of day quantity (which could be any value between zero and the tendered end of day quantity)
- Further consideration since publication of Mod 0845 has led NGT to question the viability of this arrangement for shipper DSR options...

4. Demand Reduction Quantity: 'Reduce to' Compatibility with Renomination Rules

- Where a shipper executes a locational sell action with NGT, it is obliged to reduce its prevailing Output Nomination by the same quantity as the accepted trade (TPD D2.3)
 - Where the 'starting point' is determined by historical average daily demand, the shipper will not comply with this rule

Example:

- Prevailing nomination = 80, historical average daily demand = 50, minimum tendered quantity = 10.
- Hence the shipper would offer a quantity of 40 on the OCM but would renominate down by 70

Options:

1. Mod 0845 disapplies this section of Code for exercised DSR options, including the PRI charge
2. Retain the current rule of reduction from lesser of prevailing nomination and tendered quantity for shipper DSR options and implement 'reduce to' for direct consumer contracting only.

4. Demand Reduction Quantity

- How does a 'reduce to' arrangement work for a within day DSR option?
 - The consumer may already have offtaken more than its tendered minimum quantity at the time DSR is called
 - Proposal: apply a $1/24^{\text{th}}$ rate of the tendered minimum quantity over the remaining hours of the gas day

Within-day DSR option in a 'reduce to' arrangement

End of day offtake quantity must not exceed:

Quantity of gas already consumed between the start of the day and the hour bar when DSR was called

Plus

Prevailing rate of offtake over the lead-time

Plus

The quantity derived from gas offtake at the implied 1/24th tendered rate for the remaining hours in the gas day

Example

Tendered minimum EOD quantity: 12 units

Implied flow-rate = 0.5 units / hr

Within day lead-time offered: 3 hours

DSR called at 12:00 on D

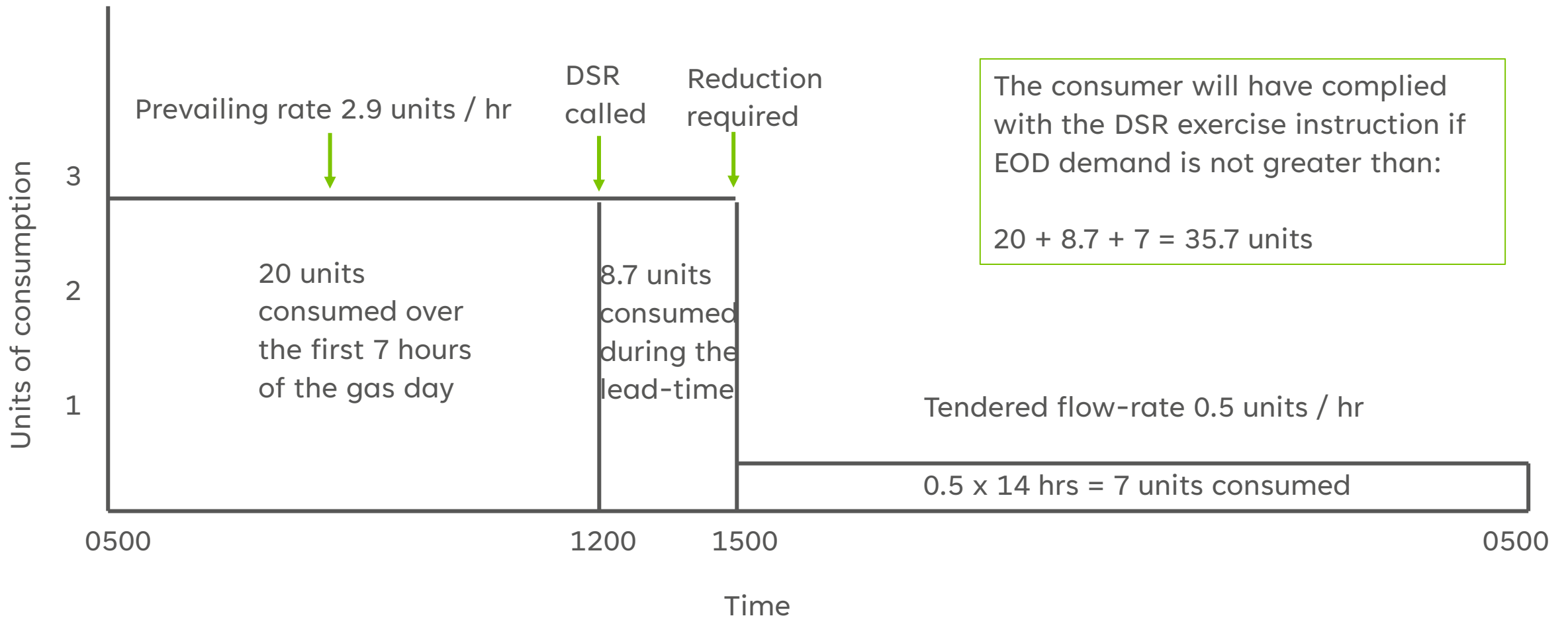
Gas consumed by 12:00 = 20 units

Demand reduction period starts at 15:00

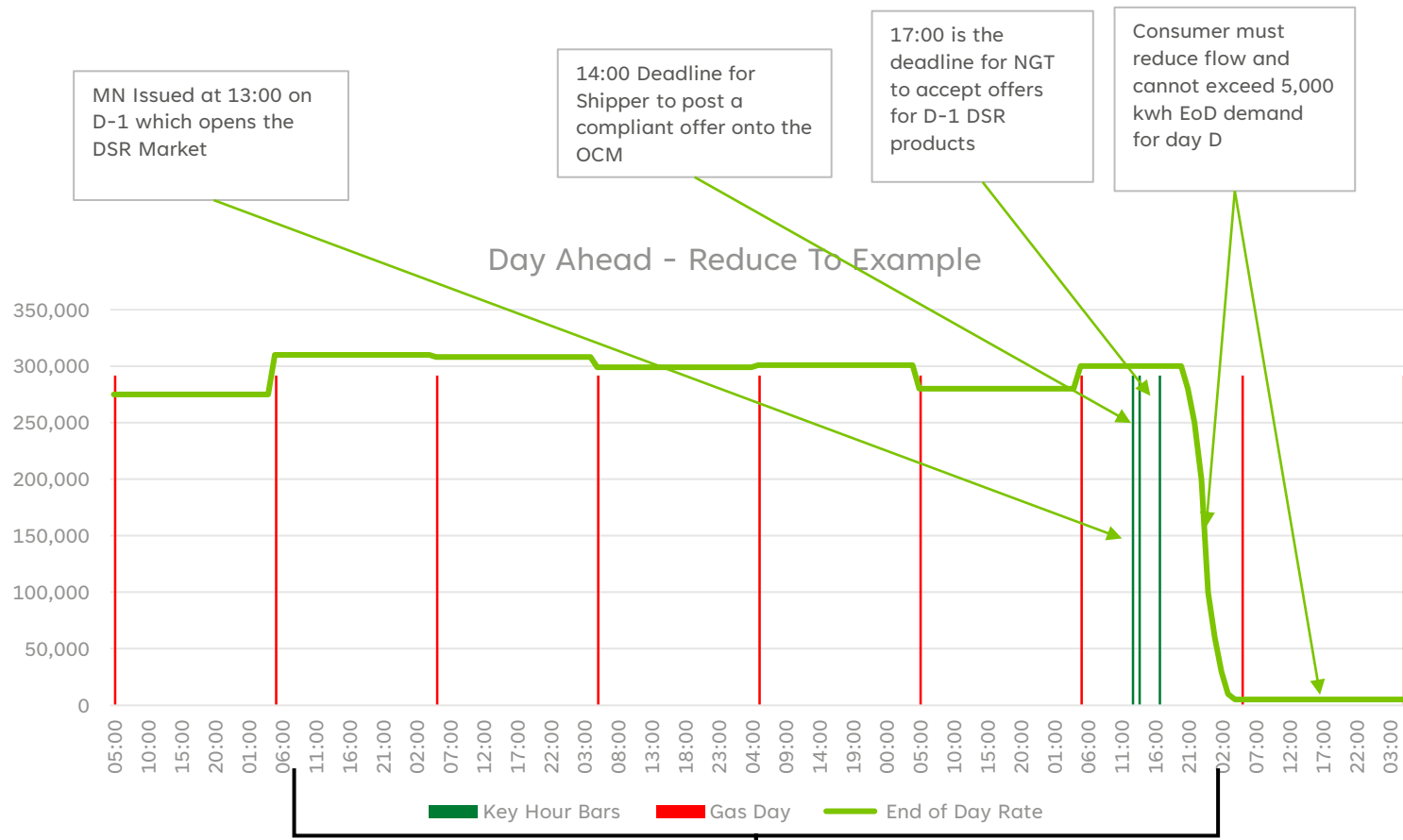
Total site offtake for that day must not exceed:

$$20 + (3 \times 2.9) + (14 \times 0.5) = 35.7 \text{ units}$$

Within-Day 'Reduce to' Example



D-1 'Reduce to' Example



This example assumes an average of the previous 7 days consumption is used to determine the level of reduction on D

DSR Offer Details:
Reduce to 5,000 kwh

Average consumption over previous 7 days:
287,423 kwh/d.

Level of reduction:
282,423 kwh

in a "reduce to" scenario, the Shipper has had a DSR Option accepted where their Consumer is required to reduce their consumption to 5,000 kwh. Certainty is provided to the Consumer that they will be able to continue flowing at a specific level even if DSR is called. Therefore, the consumer can maintain a maximum flow of 5,000 kwh/d in order to maintain critical operations.

5. Additional DSR Options Tender Features

- Industrial consumers have requested greater flexibility in the option tender bidding process
- Mod 0845 proposes to deliver this by introducing more parameters:
 - Maximum number of days in a Winter Period that the DSR Option can be exercised on
 - Enable a User to offer more than one DSR product on behalf of the same consumer
 - Minimum quantity not to be exceeded if DSR is exercised
- This would bring more variables / complexity into the tender offer, tender assessment and exercise assessment processes
- Assessment is currently based on total option and exercise price, allowing for within day options to be prioritised over D-1 options
- Price would remain the overriding factor in assessment but NGT would require more flexibility in assessing which offers to accept
- Simplification of current UNC text TPD D7.5 would be required

6. Shipper Obligations: DSR Options

Shipper obligations to post DSR Market Offers (within-day and D-1 DSR options)

- 0822 established the following in TPD D7.6.2

“ Where a DSR Option is in force in respect of a Winter Period:

(a) on each Day in that Winter Period which falls (partly or wholly) within a Voluntary DSR Period, the User shall:

(i) in the case of the first such Day of such period, within 60 minutes after the time at which (in accordance with paragraph 5.1.1(d)) that Voluntary DSR Period starts, and

(ii) in the case of each subsequent Day (and whether or not its DSR Market Offer for any earlier such Day was accepted), by 06:00 hours on the Day

Post a DSR Market Offer”

- Upon review, these rules are not adequate to cover all potential circumstances...
 - For a within day option where the trigger is by Margins Notice or GBN issued on D-1 (a within day offer can't be placed until the gas day starts, thus breaching the 60 minute rule). The intention was that within-day offers must be placed by 06:00 hrs on the gas day
 - A new Margins Notice would have to be issued on subsequent days if required, hence where this is the trigger and a D-1 option is held the 60 minute obligation should remain

6. Shipper Obligations: DSR Options

We therefore consider that if the shipper tender arrangements remain in place for 2023/24 DSR options, the rules in D7.6.2 should be amended to reflect the following table:

Option held	Notification trigger	Shipper obligation - first day	Shipper obligation - subsequent days
Within-day	Margins Notice on D-1	post offer on D by 06:00 on D	post offer on D by 06:00 on D
	GBN D-1	post offer on D by 06:00 on D	post offer on D by 06:00 on D
	GBN within day	post offer for current day within 60 mins of GBN issue	post offer for current day by 06:00 if GBN not withdrawn
D-1	Margins Notice on D-1	post offer on day MN issued for tomorrow within 60 mins of MN issue	post offer on day MN issued for tomorrow within 60 mins of MN issue
	GBN D-1	post offer on day GBN issued for tomorrow within 60 mins of GBN issue	post offer by 09:00* for tomorrow if GBN not withdrawn
	GBN within day	post offer for tomorrow within 60 mins of GBN issue	post offer by 09:00* for tomorrow if GBN not withdrawn

* OCM opens for D-1 trading at 08:00 D-1

6. Shipper Obligations: DSR Options

- TPD D7.6.6 states:
- *“National Gas Transmission may not accept a DSR Market Offer posted pursuant to a Day-Ahead Option later than 17:00 hours on the Preceding Day”.*
- To provide certainty to shippers holding D-1 options on the latest time at which they would be obliged to post a DSR Market Offer, we would propose to add a provision that if a Margins Notice is issued later than 16:00 on D-1 then a shipper with a D-1 option is relieved of its obligation to post an offer (but may still elect to do so)

7. D-5 Product

- Legal assessment
- Procurement mechanism
- Trigger for exercise / exercise process
- Balancing / market impacts

7. D-5 Product: Legal Assessment

Gas Act

- We have not identified any barriers to implementing a longer lead-time DSR product in the Gas Act

EU Balancing Code

- The BAL Code establishes the principle that shippers have the primary balancing role and the TSO acts as ‘residual balancer’ (Recital 5, Art 4(1))
- ‘Residual’ does not necessarily constrain the TSO to within-day and D-1 actions; it is balancing activity that’s outside the scope of what the shipper can/will do
 - The existence of the GB emergency arrangements implicitly recognise that NGT residual balancing actions at D-1 and within day might not be sufficient
- A TSO’s use of ‘short term standardised products’ for balancing are only for within-day and day ahead timescales (Art 7(1)), however there is no prohibition on use of a ‘balancing service’ with a longer lead-time, provided that it is still suitably ‘short term’ (Art 3(7))
- A TSO must only use a ‘balancing service’ where short-term standardised products “*will not or are not likely*” to provide the response needed. (Art 9(1)(c)). “*Will not*” contemplates the use of balancing services before short-term standardised products are used

We do not believe that the EU Balancing Code would prevent the introduction of a D-5 product as a balancing service

7. D-5 DSR Product: Licence Impact

- A Licence change would be required in relation to the circumstances under which DSR could be exercised
- Special Condition 9.22.3 requires that NGT must ensure that the DSR Methodology...

c) allows the licensee to accept Demand Side Response Offers only where a Gas Balancing Notification* is in place or within stage 1 of a Gas Deficit Emergency;

* To enable implementation of Modification 0822, a derogation from Ofgem is currently in place that permits NGT to also accept DSR offers when a Margins Notice is in force.

7. D-5 DSR Product

Optimal Lead-time: why D-5?

- Some consumers have indicated they would need between 2-5 days' notice to reduce their gas demand, though some could reduce to a minimal load in a shorter timeframe
- NGT produces a Margins Notice forecast up to D-5 which could be used to inform exercise
- D-5 might therefore strike a balance between what will work for consumers and system conditions that are reasonably forecastable, though would have a high degree of uncertainty this far out

Procurement Mechanism

- Mod 0845 proposes to include D-5 within the option tender for within-day and D-1 products

7. D-5 DSR Product

Exercise Process

- NGT to assess expected available supply against forecast demand 5 days ahead on each day in the Winter Period
 - Expectation that NGT would use its Margins Notice forecast to make this assessment
- Exercise mechanism is currently envisaged to be notification at D-5, followed by execution on OCM at D-1 (subject to discussion with ICE)
- Where a supply deficit >14 mcmd* is forecast for D-5, a D-5 DSR option may be exercised
 - NGT discretion about whether to exercise D-5 if trigger is satisfied
 - NGT to issue an ANS if D-5 is being triggered
 - Instruction to ICE to open the DSR market on D-1 but only to enable D-5 DSR options to be exercised If a Margins Notice or Gas Balancing Notification is subsequently issued on D-1 then the DSR market would remain open

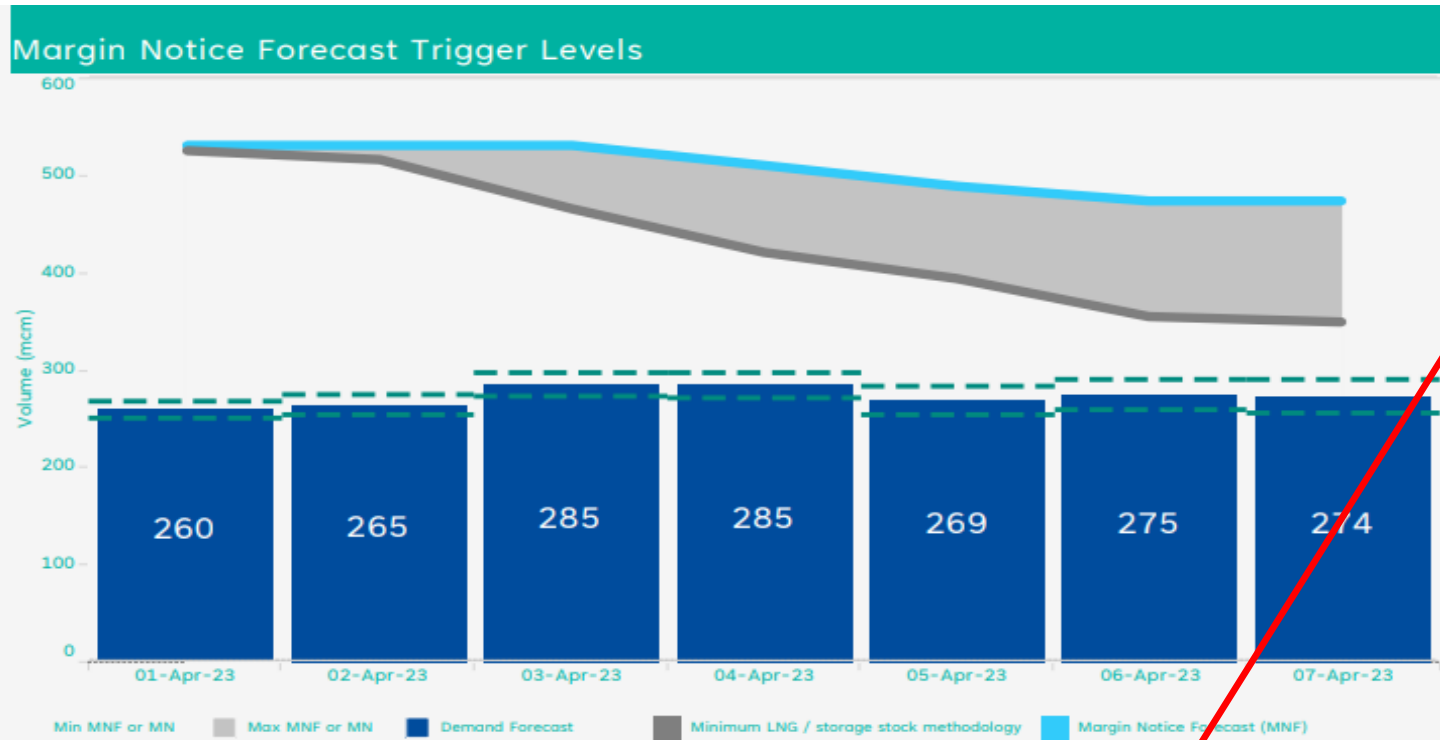
* NGT has a target forecast error of 13.7 mcm on its D-2 to D-5 demand forecasting incentive

7. D-5 DSR Product

Exercise: Operational Timings

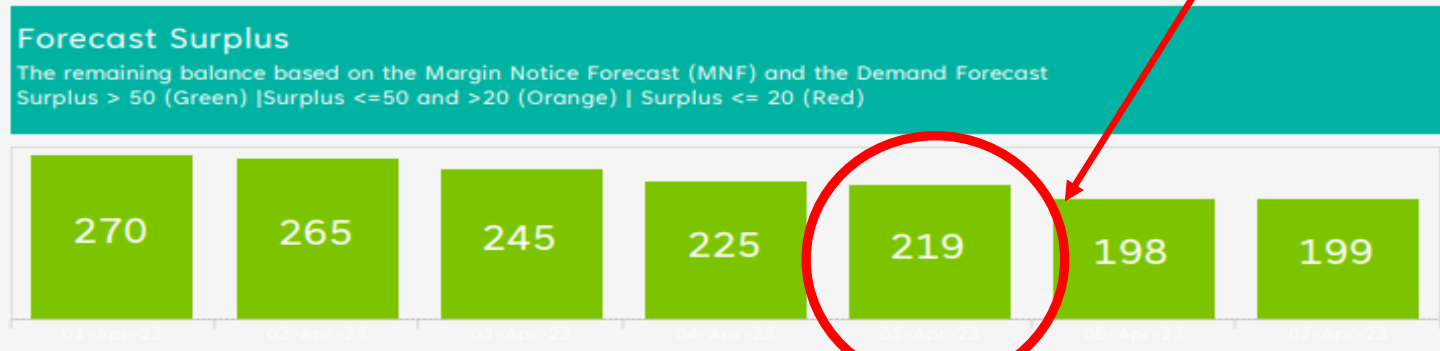
- NGT notification to each relevant User of a decision to exercise a D-5 Option
- Relevant User obliged to post a DSR Market Offer by 10:00 on D-1
- NGT obliged to accept DSR Market Offers offers not later than
 - 12:00 on D-1 (OCM participants)
 - 14:00 on D-1 (where submitted as an 'over-the-counter' trade under Mod 0833 provisions)
- NGT to publish total quantity, total exercise costs and highest price of D-5 DSR options exercised by the end of gas day D-5

7. D-5 Product: Trigger assessment



If the D-5 value is in deficit by >14 mcmd then the trigger for exercise is satisfied

NGT decision whether to exercise D-5 options



7. D-5 DSR Product

Funding Arrangements

- Remain via balancing neutrality as for within-day and D-1 DSR options

Cashout price determination

- Mod 0845 currently proposes that the volume and price of D-5 DSR trades should feed into cashout price determination as it would constitute a TSO balancing action
- On reflection, we consider that D-5 DSR should be **excluded** from cashout because:
 - Exercise would be committed to outside of cashout timescales
 - The prompt market is not available when exercise is triggered
 - Therefore, the execution price of a D-5 DSR product is unlikely to be reflective of supply/demand fundamentals on the day
 - EU BAL Code Art 22 mandates that TSO title actions feed into cashout and provides for NRA discretion on locational products
 - NGT envisages that a qualification to NTS Licence SPC 9.22.3(d) would be required to exclude D-5 exercise from cashout:
 - “9.22.3 The licensee must ensure that the Demand Side Response Methodology:

d) demonstrates compatibility with existing market arrangements by setting out the manner in which any Demand Side Response Offers accepted by the licensee are to be treated as Eligible Balancing Actions and included in the System Clearing Contract, System Marginal Buy Price and System Marginal Sell Price;

Next Steps

- Amend Modifications 0844 and 0845 to:
 - reflect the content of these slides
 - anything further agreed at the Workgroup meeting
- Raise a ROM request to the CDSP
- Produce draft legal text

