# Energy Balancing During Operation of a Supplier Undertaking

**Industry Workshop**

Friday 5th November 2021

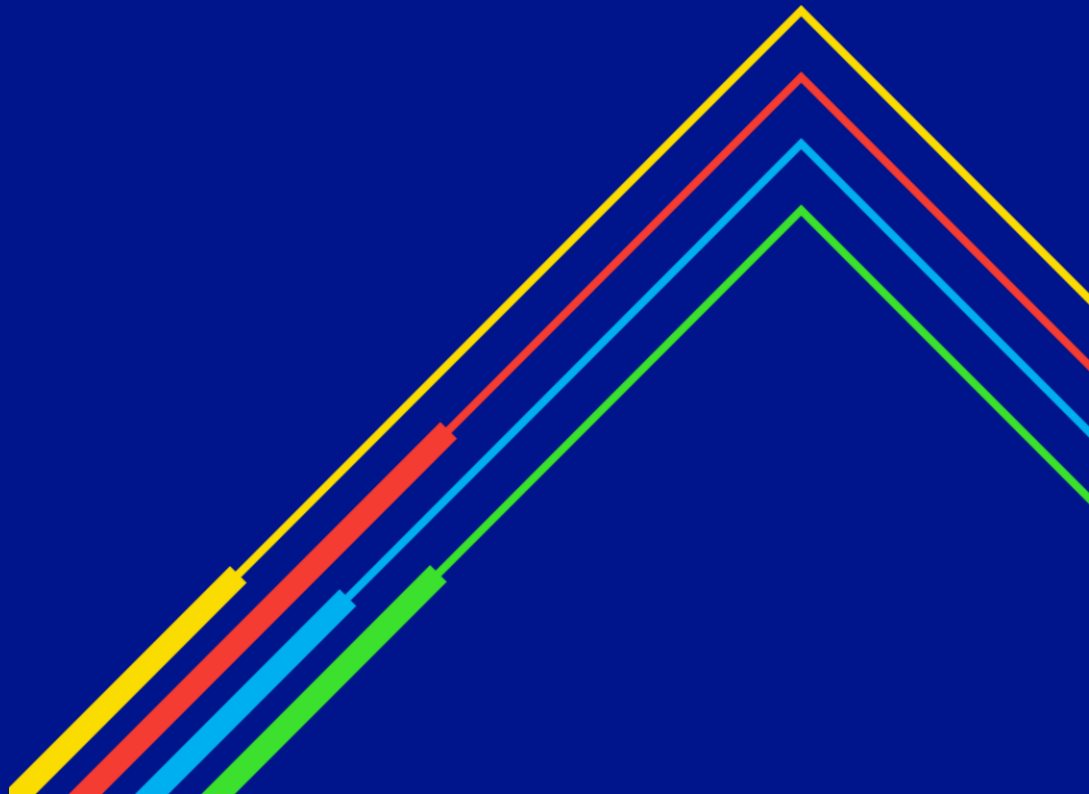
nationalgrid

# Today's Agenda

| | Agenda Point | Presenter | Start | End |
|---|---|---|---|---|
| 1 | Welcome | PH | 09:30 | 09:35 |
| 2 | Opening remarks - Ofgem | EW | 09:35 | 09:40 |
| 3 | Opening remarks – National Grid | CL | 09:40 | 09:45 |
| 4 | Workshop logistics | PH | 09:45 | 09:50 |
| 5 | Problem Statement | PH | 09:50 | 10:05 |
| 6 | GB Regime Balancing Principles | DL | 10:05 | 10:15 |
| | Potential Solutions | | | |
| 7 | Modification 0789 – recap of proposal & interaction with 0788 | PL | 10:15 | 11:00 |
| Break – 15 mins | | | | |
| 8 | Modification 0789 – summary of feedback from industry webinar 20th October | PH | 11:15 | 11:45 |
| 9 | Modification 0789 – industry views | All | 11:45 | 13:00 |
| Lunch break – 45 mins | | | | |
| 10 | Potential alternative solution (1) | NW | 13:45 | 14:30 |
| 11 | Potential alternative solution (2) | RF | 14:30 | 15:15 |
| Break - 15 mins | | | | |
| 12 | Pros and cons of potential solutions | All | 15:30 | 16:30 |
| 13 | Summary of actions | HB | 16:30 | 16:45 |
| 14 | Agenda for workshop 2 | PH | 16:45 | 17:00 |

# Opening Remarks

# Ofgem



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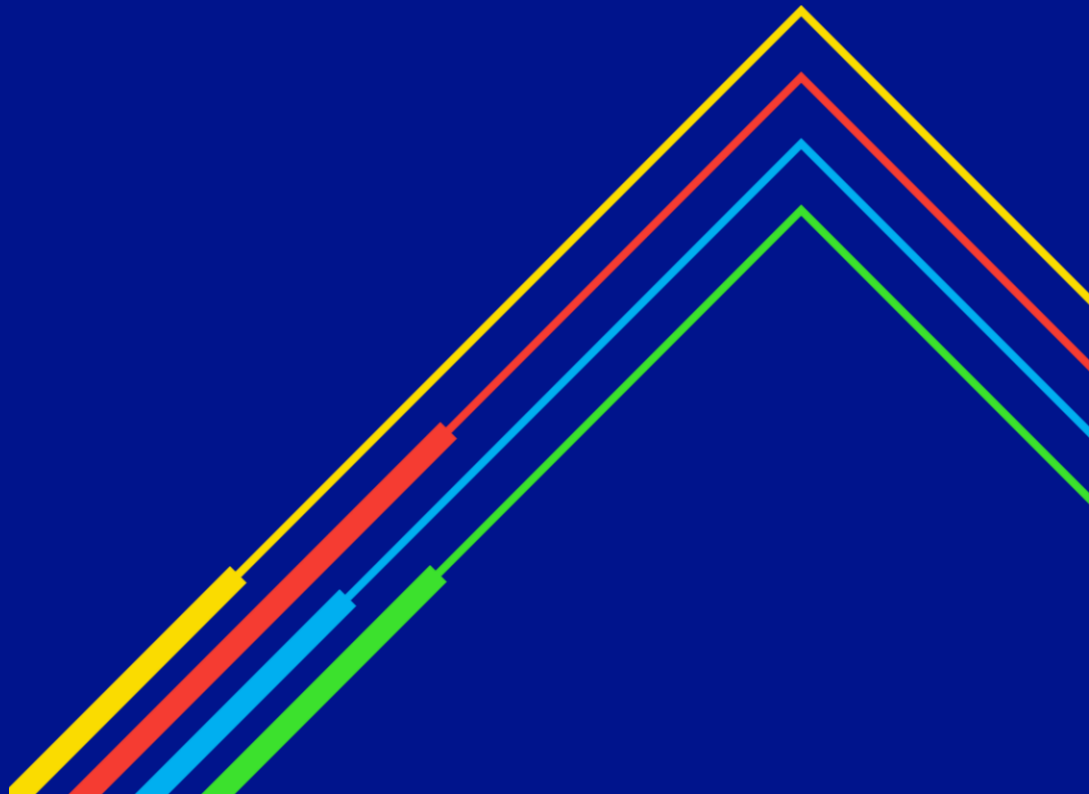
# Opening Remarks

# National Grid



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# Plan for the Workshops


Problem statement

Mod 0789

0789 interaction with 0788

Other proposals

Impacted areas

CBA of proposals

Impact on different market participants

Credit impacts

Consumer impacts

UNC relevant objectives

Implementation matters

Contingency day

# Proposed Way of Working

**National Grid to chair each workshop**

**Joint Office to prepare high level minutes and an action log, circulated the following day**

**No report is proposed at the end of the workshops; rather the output would be used to support justification for any further UNC modification proposal(s)**

**Where possible, please 'raise a hand' to enter the discussion**

# Proposed Problem Statement

**The recent rise in wholesale gas prices has created a heightened risk of participants exiting the market, which can result in increased costs to the remaining shippers and suppliers and by extension consumers.**

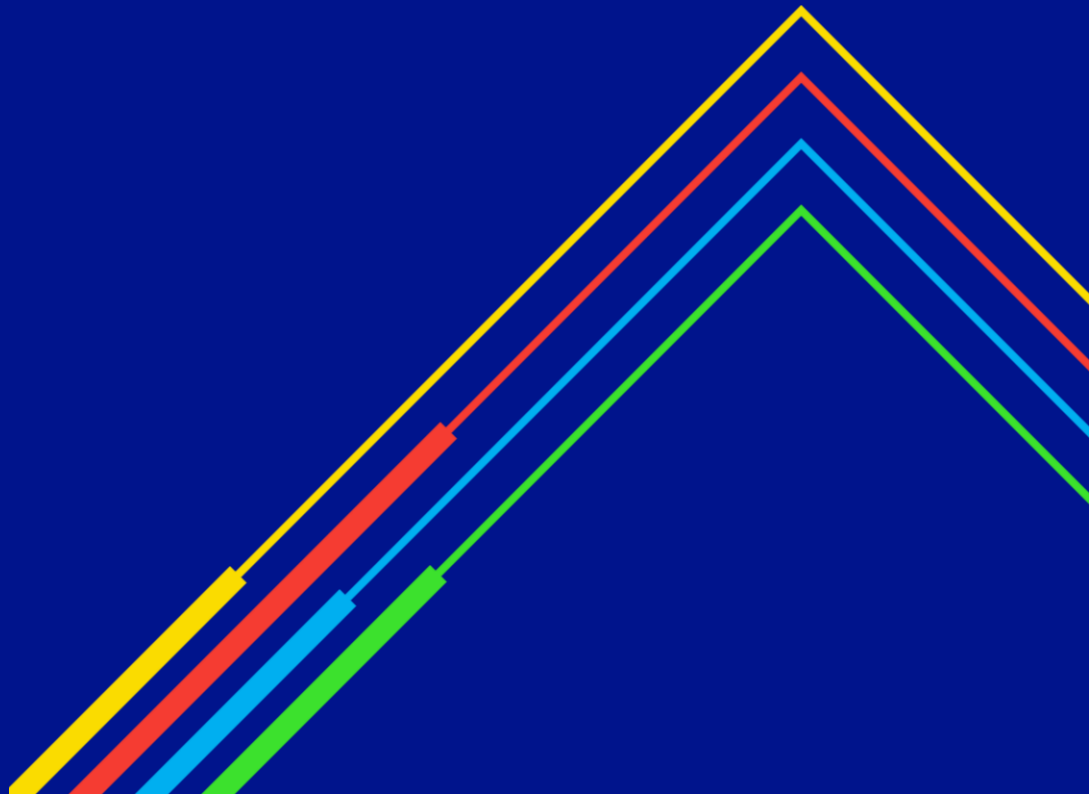
**Where a shipper is terminated from the UNC that acts for one or more suppliers, there may be a period where demand portfolios are operated under the supplier 'deed of undertaking', where the supplier becomes liable for energy balancing and transportation charges and no party is delivering gas that those consumers are offtaking.**

**This generates additional costs:**

- **For the supplier via SMP buy cashout charges; and**
- **For all other physical shippers through impacts on marginal prices where National Grid (as residual balancer) is required to buy that gas onto the system**

**Modification 0788 provides a voluntary option for a supplier to mitigate its cashout exposure but a more complete solution is needed where this is not taken up.**

# Balancing Principles



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# Balancing responsibilities

**Shipper's role:**

- Primary balancers in the regime, the regime is built on the assumption that shippers in the first instance balance supply and demand.

**National Grid's Role**

- Ensure overall NTS balance is within safe physical operating parameters
- Where there is an imbalance - incentivise shippers to balance through the use of OCM trading – setting marginal prices - 'fine-tuning'
- Neutral to cost of balancing
  - cost or revenue of retaining a physical balance of the NTS is smeared back to the shipping community through 'neutrality'.
- NG subject to incentives to balance and trade "efficiently"
  - Minimise the price spread of Transporter balancing actions
  - Minimise daily linepack changes

# Shipper Imbalance Components (TPD Section E5.1.1)

**INPUTS**

User Daily Quantity Input (UDQI)

Acquiring Trade Quantities

**OUTPUTS**

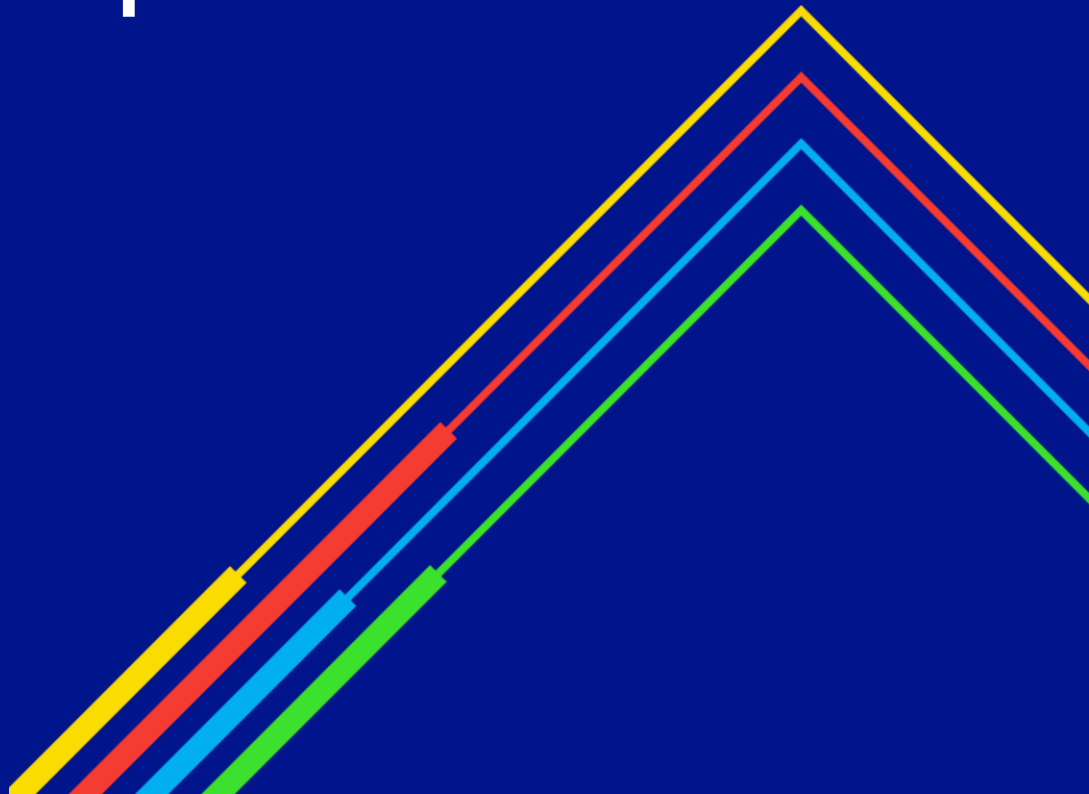
User Daily Quantity Output (UDQO)

Disposing Trade Quantities

Unidentified Gas (DNs)

***Additional Daily Quantity***

# UNC Modification Proposal 0789



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# Existing Arrangements

- If its Shipper fails, a Supplier is required to make arrangements with an alternative Shipper
- Supplier licence condition 18 requires the Supplier to "*take all reasonable steps*" to appoint a replacement Shipper within 25 working days of the Shipper failure
- Where a new Shipper is not appointed (i.e. continuity of Shipper registration is not achieved), the Supplier is liable for Energy and Transportation Charges under a 'Supplier Undertaking' (agreed at market entry with Transporters) for the interim period
- In respect of Energy Balancing, the Supplier's imbalance position is determined on the basis of **zero** input to the Total System (as per the Supplier Undertaking)
  - as if the Shipper concerned (i.e. the Shipper now terminated) had "*not at any time during the relevant period introduced or arranged to introduce any gas into National Grid NTS's pipeline system*"
- As a consequence, if all other Shippers balance inputs and outputs, the system will be short
  - The Residual Balancer (National Grid) is required to maintain an operational balance i.e. secure delivery of additional gas to the Total System to match the demand of the relevant Supplier

# Issues

- Role of the Residual Balancer is to ‘fine tune’ the balancing position to maintain an operational balance
- ‘Fine tuning’ envisages that Shippers are actively seeking to minimise individual imbalance to mitigate the commercial risk of exposure to marginal pricing
  - if a Shipper is 'short': a premium price above market value is paid for the additional gas; and
  - if a Shipper is 'long': excess gas is sold at a rate below market value
- Requiring the Residual Balancer to additionally address the system shortfall generated by a Supplier (in this scenario) *not* delivering any gas to the system increases the level of costs it incurs
  - Increased risk of Shipper failures in current commercial climate has potential to increase scale of these residual balancing costs

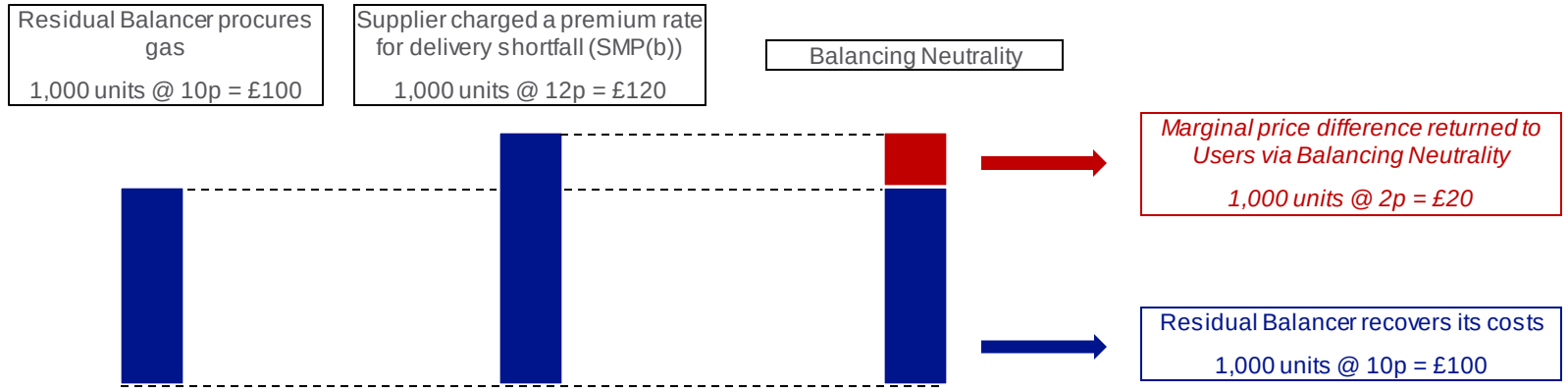
# Proposal

- Shippers (with throughput) remaining in the market incentivised to procure the gas to meet the demand of any Supplier acting under a Supplier Undertaking
  - industry 'burden' to address supply shortfall is shared amongst active Shippers
- Individual Shipper's share of the additional demand determined on the basis of throughput share in M-2
  - Entry volumes not closed out until M+15 hence M-2 will be most recent 'closed out' monthly data
  - Aligns with existing arrangements for the recovery of Residual Balancing costs

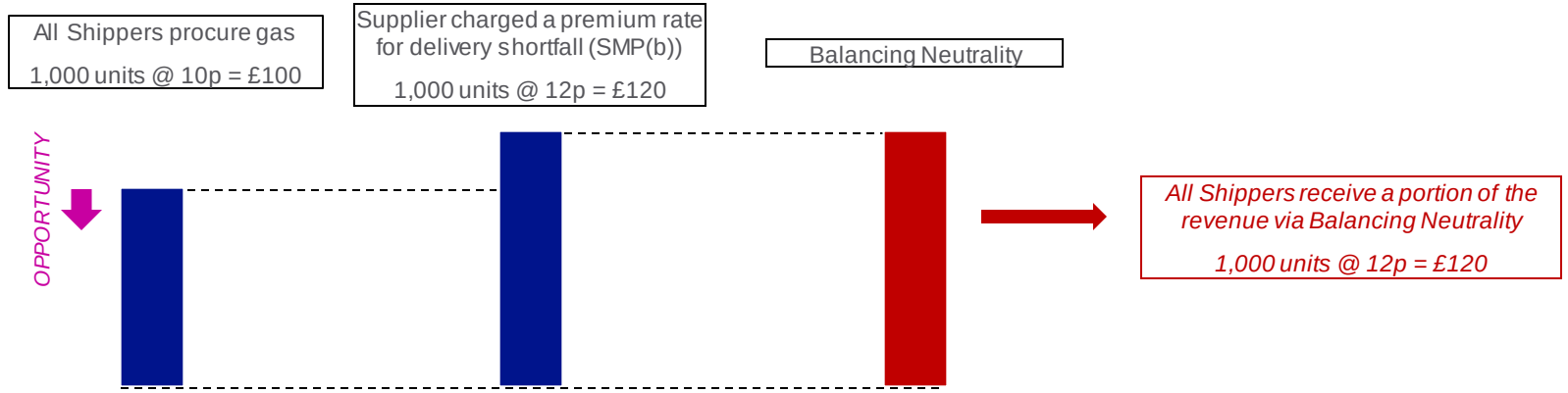
| Option | Shippers Incurring Balancing Cost | Allocation of SMP(b) Revenue to Shippers | Outcome |
|---|---|---|---|
| As proposed | Input and output (throughput) share | Input and output (throughput) share | SMP(b) revenue returned to Shippers in similar proportions to the costs incurred |
| Alternative 1 | Output share (only) | Input and output (throughput) share | Output shippers under-recover<br>Input Shippers over-recover |
| Alternative 2 | Input share (only) | Input and output (throughput) share | Output shippers over-recover<br>Input Shippers under-recover |

# Application of 0789 in Balancing Neutrality

## CURRENT




## MOD 0789



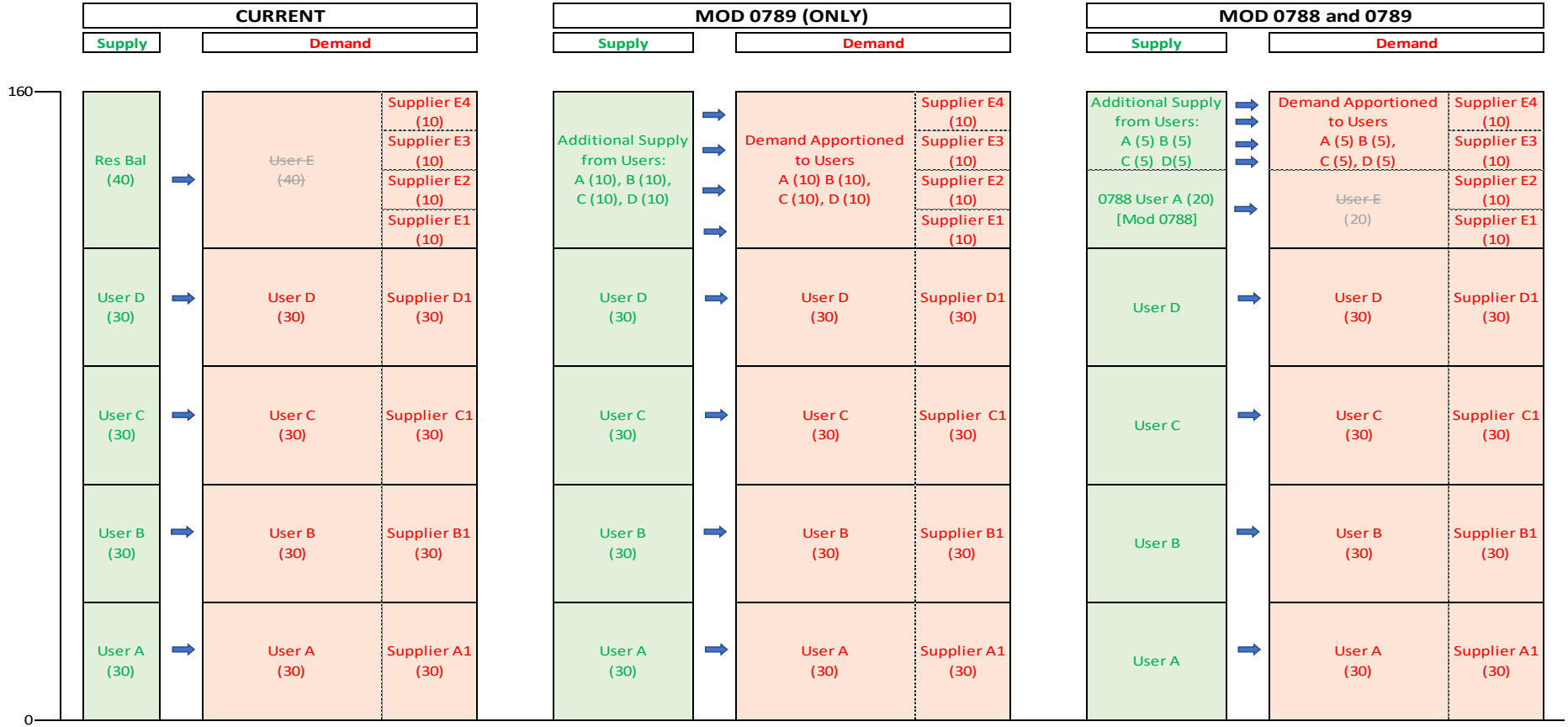
# Process

- National Grid forecasts demand of relevant Supplier/s,
  - calculates individual Shippers' share based on M-2 throughput share
- National Grid notifies each Shipper of share at D-1 (provisional), and D (final)
  - Disposing trade generated for each Shipper for the finalised volume (matching trade also generated by National Grid) – shown in Gemini
- Demand side of individual Shipper's daily imbalance (TPD E5.1.1(b)) increased by relevant amount
  - Shipper incentivised to increase supply side of daily imbalance to meet the increased demand

## Interaction with Modification 0788

- Any volumes associated with Mod 0788 provisions will be deducted from forecast demand
- 0788 provides those affected Suppliers with a route to mitigate their SMP buy risk; we expect this would lead to less volumes needed in 0789 – but as 0788 is voluntary it cannot be guaranteed

# Interaction with 0788

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$FDRS_d = 40$

$FDRS_d = 20$

# 0789:

## Benefits

- Maintains focus of Residual Balancer on ‘fine tuning’ aggregate Shipper imbalance for shippers *actively* seeking to maintain a balance
  - Removes additional Residual Balancer role of securing supplies for a Supplier’s entire demand / portfolio
- Enables Shippers to control procurement of additional gas volumes (as opposed to essentially incurring the costs of such procurement via Energy Balancing Neutrality)
  - Shippers have access to markets and sources of supply not available to the Residual Balancer hence have greater flexibility than the residual balancer to procure at a lower unit cost
- Capable of rapid implementation

# Scenario

## Assumptions

- Between the start and end of the Gas Day, no change in linepack (gas volumes in the NTS) is sought by the System Operator, i.e. the operational balancing requirement is addressed by matching overall inputs and outputs for the Gas Day;
- Whilst the setting of a marginal price by the Residual Balancer would ordinarily be expected to prompt a commercial response from Users, in Scenario 2 and Scenario 3 it is assumed all the required 'volume response' is provided by the Residual Balancer.

## Points to note

- For ease of understanding, only 5 Users are shown in the scenarios. This necessitates use of relatively high individual User throughput market shares (up to 35%) whereas in reality, given the greater number of Users in the market, the highest individual User throughput market share in August 2021 was less than 14%.

# Existing Balancing Regime Scenarios

Scenario 1 -Existing balancing regime:

five **Users** (A, B, C, D and E) are actively seeking to achieve a balance between their respective system inputs and outputs to minimise each of their individual imbalances (i.e. their exposure to marginal cash out prices); and

the **Residual Balancer** (National Grid) addresses any remaining net imbalance to maintain overall system balance (in this example, by securing an additional 4 units of input)

| | Input | Output | | | Imbalance |
|---|---|---|---|---|---|
| | | User | $ADQ_u$ | Total | |
| **User A** | 100 | 106 | 0 | 106 | *-6* |
| **User B** | 200 | 199 | 0 | 199 | *1* |
| **User C** | 150 | 149 | 0 | 149 | *1* |
| **User D** | 90 | 88 | 0 | 88 | *2* |
| **User E** | 50 | 52 | 0 | 52 | *-2* |
| **All Users** | **590** | **594** | 0 | **594** | *-4* |
| **Residual Balancer** | 4 | | | | |
| **Throughput** | **594** | | | **594** | *0* |

Scenario 2 - Existing balancing regime:

where **User E** fails and the associated supplier acts pursuant to a Supplier Undertaking, it is assumed to input zero into the system and is cashed out at a 'premium' marginal price (for 52 units in this example); and

the **Residual Balancer** is required to procure the entire demand for User E (52 units in this example) plus the net imbalance for Users A, B, C and D (2 units in this example)

| | Input | Output | | | Imbalance |
|---|---|---|---|---|---|
| | | User | $ADQ_u$ | Total | |
| **User A** | 100 | 106 | 0 | 106 | *-6* |
| **User B** | 200 | 199 | 0 | 199 | *1* |
| **User C** | 150 | 149 | 0 | 149 | *1* |
| **User D** | 90 | 88 | 0 | 88 | *2* |
| **User E** | | 52 | 0 | 52 | *-52* |
| **All Users** | **540** | **594** | 0 | **594** | *-54* |
| **Residual Balancer** | 54 | | | | |
| **Throughput** | **594** | | | **594** | *0* |

# Modification Proposal 0789 Scenarios

Scenario 3 - Revised balancing regime:

the demand for failed **User E** (52 units in this example) is apportioned between **Users A, B, C and D** in proportion to their throughput from M-2 (the value $ADQ_d$). If these Users *do not* respond to the incentive they would incur increased imbalance volumes; and

the **Residual Balancer** would still be required address the overall system imbalance

| | Input | Output | | | Imbalance | *Throughput Proportion (m-2)* |
|---|---|---|---|---|---|---|
| | | User | $ADQ_d$ | Total | | |
| **User A** | 100 | 106 | 10.4 | 116.4 | *-16.4* | *20%* |
| **User B** | 200 | 199 | 18.2 | 217.2 | *-17.2* | *35%* |
| **User C** | 150 | 149 | 14.6 | 163.6 | *-13.6* | *28%* |
| **User D** | 90 | 88 | 8.8 | 96.8 | *-6.8* | *17%* |
| **User E** | | 52 | | | *-52.0* | |
| **All Users** | **540** | **594** | | **594** | | |
| **Residual Balancer** | 54 | | | | | *100%* |
| **Throughput** | **594** | | | **594** | *0.0* | |

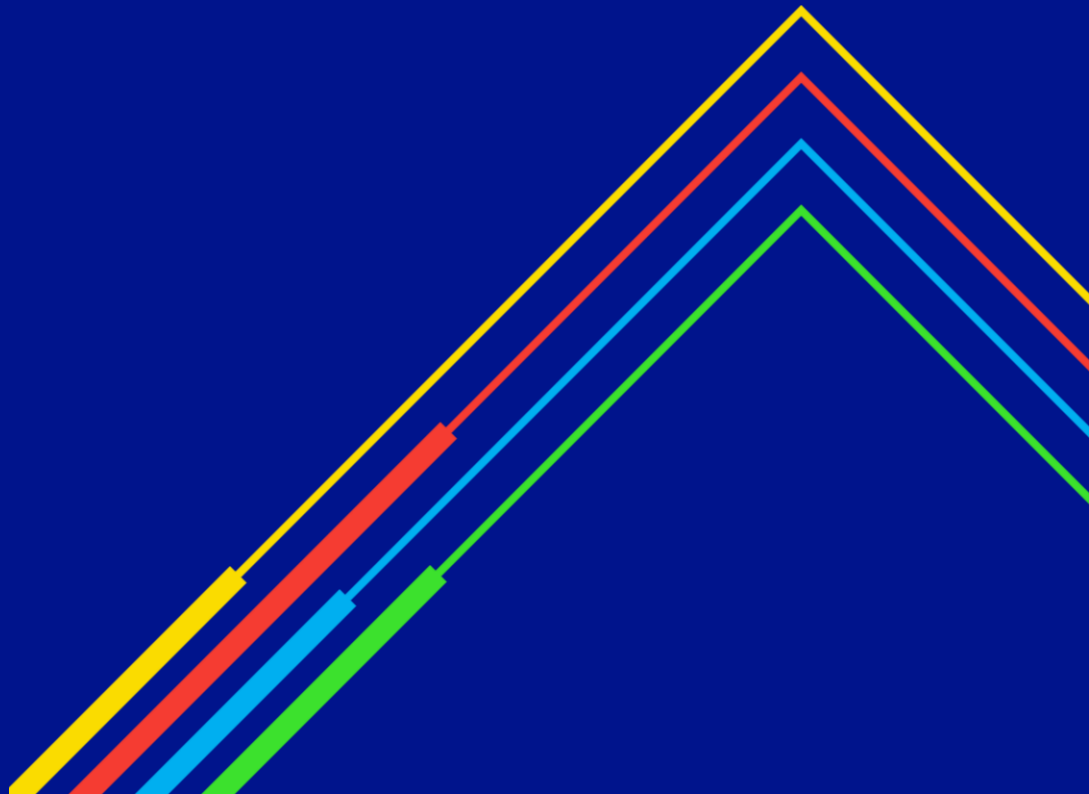
Scenario 4 - Revised balancing regime:

if Users **A, B, C and D** *do* respond to the incentive they will not incur increased imbalances. In this example, each User is assumed to increase Inputs to match the additional deamnd ($ADQ_d$) added to their respective output volumes. The remaining imbalance is from their '*pre-*$ADQ_d$' inputs and outputs; and

the **Residual Balancer** would still be required address the remining net imbalance to maintain overall system balance (in this example, an additional 2 units of input, this being the net imbalance for Users A, B, C and D)

| | Input | Output | | | Imbalance |
|---|---|---|---|---|---|
| | | User | $ADQ_d$ | Total | |
| **User A** | 110.4 | 106 | 10.4 | 116.4 | *-6.0* |
| **User B** | 218.2 | 199 | 18.2 | 217.2 | *1.0* |
| **User C** | 164.6 | 149 | 14.6 | 163.6 | *1.0* |
| **User D** | 98.8 | 88 | 8.8 | 96.8 | *2.0* |
| **User E** | | 52 | | | *-52.0* |
| **All Users** | **592** | **594** | | **594.0** | |
| **Residual Balancer** | 2 | | | | |
| **Throughput** | **594** | | | **594** | *0.0* |

# Break



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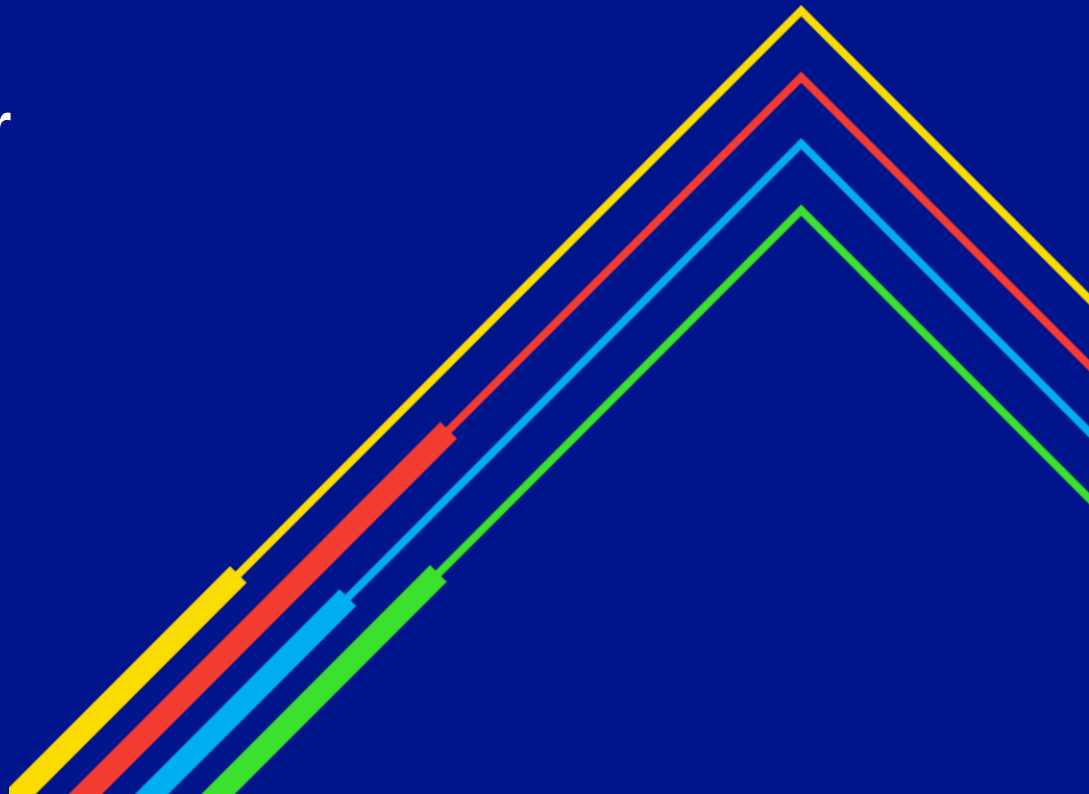
# Modification 0789

## Issues Raised in Webinar
## 20 October 2021



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# Industry Webinar on 0788 and 0789

**Many issues were raised in the 0788 & 0789 webinar that we hosted on 20 October 2021**

**We propose to use these as a basis for further discussion on the 0789 proposal today**

**We have grouped the issues into the following areas:**

- 0788 and 0789 interaction
- Credit risk
- Use of markets other than OCM
- Shipper ability to source additional gas volumes
- Process queries

# Issues Raised in Webinar: 0788 and 0789 Interaction

| Issue Raised | National Grid Response |
|---|---|
| Do you need 0789 if 0788 is in place? | Mod 0788 provides an option for suppliers which may not be fully taken up, therefore we believe that a mechanistic solution is also needed to incentivise delivery of any remaining volumes. |
| Is the proposal that 0789 would apply where a supplier cannot appoint a shipper under 0788? | Yes, any volumes procured under the 0788 proposal would be subtracted from the volume to be smeared under 0789 |
| Are 0788 and 0789 time limited somehow? | Both modifications are intended to be enduring provisions in the UNC, but they would only come into effect for periods where there was no Registered User for supply points following a shipper termination. |
| Mod 0789 could create a perverse incentive on a shipper not to undertake for 0788 | 0788 provides the opportunity for a shipper to agree terms with a supplier to deliver gas to cover a terminated shipper's supply portfolio. The opportunity is for the shipper to receive payment in respect of a larger volume than they would otherwise receive under the 0789 process as a balancing neutrality credit arising from the SMP buy exposure faced by the supplier. |

# Issues Raised in Webinar: Credit Risk

| Issue Raised | National Grid Response |
|---|---|
| Does the credit / failure risk of the supplier mean that Shippers who could help will be unwilling to trade, if believe they won't be paid? Is it just moving the credit risk from NGG to a few Shippers who want to help? | Mod 0788 provides the option for Shippers to provide assistance to a Supplier however, whether to utilise this option is a decision for the relevant Shipper. Presumably this decision will, in part, be informed by assessment of the Supplier's risk of failure.<br><br>For Mod 0789, we view Shippers as the best-placed parties to secure the additional supply volumes. It is worthy of note that for individual Shippers, the volumes will be a magnitude less than the entire volume for the relevant Supplier that is currently procured by the Residual Balancer. As set out in the Modification, the largest individual Shipper throughput share in August 2021 was less than 14%. |
| Impact on shippers' credit cover | No changes are proposed to the determination of Outstanding Relevant Balancing Indebtedness. Any changes to Code Credit Limits for transportation services will need to be considered by assessing whether any additional gas supplies sourced to match the increased volumes on the demand side of the daily imbalance will impact a shipper's Value at Risk |

# Issues Raised in Webinar: Credit Risk

| Issue Raised | National Grid Response |
|---|---|
| Asking remaining shippers to buy this gas on a short-term basis will add further pressure to OTC credit lines which are already under severe strain due to the current market prices. | We would like to understand more about this impact during the workshops. |

# Issues Raised in Webinar: Use of Other Markets

| Issue Raised | National Grid Response |
|---|---|
| Where does NG buy shrinkage gas? | National Grid utilises the following to procure gas for Shrinkage:<br>ICE Endex;<br>On-the-Day Commodity Market (OCM);<br>ICE futures; and<br>via brokers that we have bi-lateral agreements with i.e. over-the-counter (OTC) markets. |
| Is there anything that prevents NG buying gas in other markets, not OCM ? | UNC TPD D2 requires National Grid to use the OCM for balancing unless the system is unavailable, in which case we use the contingency measures in D2.4. We can use non-OCM means for balancing when a GBN is in place (TPD D3.1.2). |
| View that Mod 0789 will not work, simply add complexity and risk and still create a big shortfall and put pressure on the weakest in the market. We may see more shipper/supplier collapses as a result. What in legislation/code stops NG putting in weekly contracts with risk covered by rest of market? | For the purposes of operational balancing in normal operations, we are currently only permitted under TPD section D to trade on the day using the OCM. We think that the proposed means of spreading the unserviced demand across shippers should facilitate an equitable means to secure the additional volumes. We think that the solution needs to facilitate additional gas deliveries on the day due to the portfolio changing (meter points migrating away from the failed shipper) and to adjust for any D-1 trades under 0788. |

# Issues Raised in Webinar: Shipper Ability to Source Gas

| Issue Raised | National Grid Response |
|---|---|
| How do we know how much more gas we need to buy before the D-1 stage and won't everyone buying extra at this short stage push up prices just the same? The industry will need more lead time than D-1 noting shippers can nominate up to 30 days ahead of D. | As indicated in the 0789 proposal, the additional quantities for most shippers are expected to be a small fraction of their daily throughput. We expect the impact on prices to be lower if multiple parties are procuring small additional volumes compared to one party procuring it all. SAP is a weighted average price therefore the larger the volume traded the more material the effect. |
| Modification 0789 assumes that shippers are able to purchase this gas at short notice to cover this shortfall and resolve the balancing issues; some ICoSS members are indicating otherwise. It therefore does not solve the balancing problem and National Grid will still be going to the OCM to buy significant volumes of gas to cover these artificial short positions. Has National Grid confirmed that large shippers will be able to buy this gas? | We had not spoken to any particular shippers on this point prior to raising 0789; but 0789 is predicated on the basis that shippers as primary balancers are best placed to source additional volumes to resolve a national supply/demand imbalance. |

# Issues Raised in Webinar: 0789 Process

| Issue Raised | National Grid Response |
|---|---|
| Is the proposal that shippers will be notified of their balancing volume obligation? otherwise will shippers have to forecast the shortfall themselves? how will the notification process work? | 0789 proposes two notifications of the relevant quantity, a provisional value issued on D-1 (by 16:00) and a finalised value issued on D (by 13:00). The notification will take the form of notice to the Shipper of a trade, essentially a disposing trade nomination which effectively increases the overall demand side of the Shipper's primary imbalance calculation in UNC TPD E5.1.1.(b) |
| Are the D-1 and WD notifications done via Gemini and will there be an additional line on the imbalance position to show this info? | The notification will take the form of notice to the Shipper of a trade in Gemini, essentially a disposing trade nomination which effectively increases the overall demand side of the Shipper's primary imbalance calculation in UNC TPD E5.1.1.(b). The counterparty for this transaction will be a specific 'Termination Shipper' identifier (which we would notify all Shippers of upon implementation) will be utilised solely for these trades (thereby fulfilling National Grid's notification requirements on D-1 and D). |

# Issues Raised in Webinar: 0789 Process

| Issue Raised | National Grid Response |
|---|---|
| Who is the counterparty under 789 and is it already within NG licence to be able to undertake this process ? | A new National Grid account would be created on Gemini excluded from cashout and neutrality charges. National Grid would log acquiring trade nominations on this account against each shipper; corresponding disposing trade nominations would be made to match the trades, also done by National Grid. We believe a UNC change (not Licence) would be sufficient to enable the process. |
| What is the lead time for implementation for 0789 if approved eg system change | No system changes are required; the CDSP would need to create a new National Grid Gemini account and National Grid would need to create a new process for administering the trades. |

# Mod 0789 – Other Issues Raised in Webinar

| Issue Raised | National Grid Response |
|---|---|
| Have you thought through the implications for each party and where is a CBA for this? | This is proposed to be part of the development of 0789 through these workshops. |
| Do Grid have powers to willingly impose a short position on shippers outside of balancing their own position? | We are not aware of anything outside of UNC that would prohibit the 0789 proposal, if implemented. |
| Maybe you need a balancing market. Offers can be accepted by Grid based on the overall system position. | We are willing to consider alternatives to 0789, however this may not be capable of implementation within a short timeframe. |
| We believe the solution is to provide more flexibility, in exceptional circumstances, to avoid the consequences of NGrid to have to go to the OCM i.e. give NGrid more tools to manage the issue as opposed to passing it off on to Shippers | The purpose of the workshops is to consider such an alternative proposal. |

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