

# Energy Balancing During Operation of a Supplier Undertaking

Industry Workshop 2

Tuesday 9<sup>th</sup> November 2021

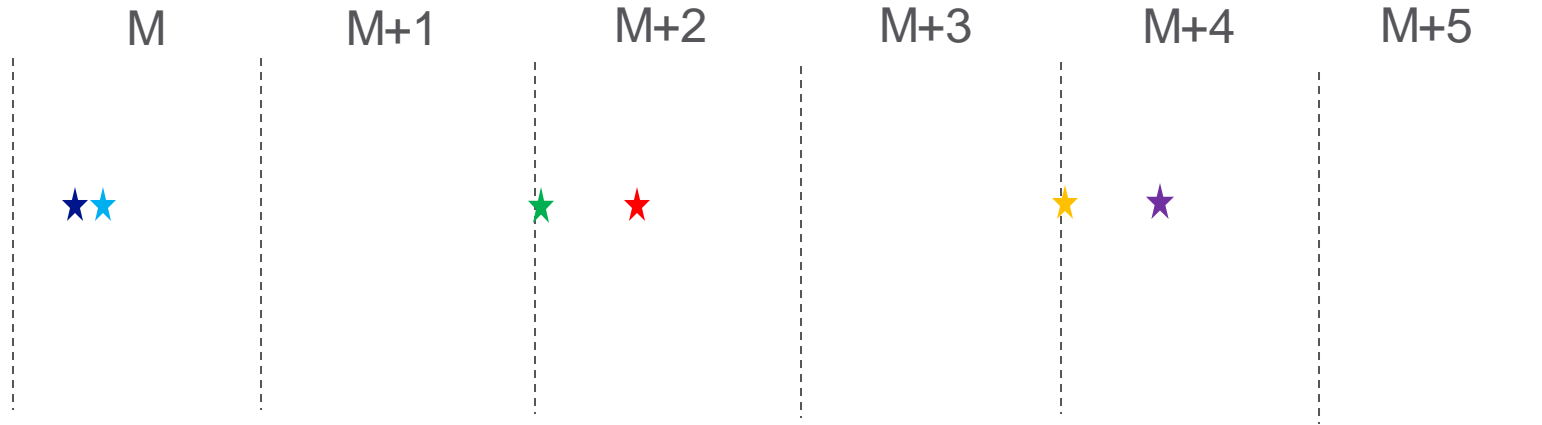
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# Agenda

	Agenda Point	Presenter
1	Welcome	PH
2	Review of minutes and actions from Workshop 1	PH
3	Balancing Neutrality cashflow timeline	PH
4	Procurement volume scenarios & cashflow impacts under 0789	DL
5	NGG ringfenced role: Licence impacts	PH
6	NGG ringfenced role: EU Balancing Code impacts	PH
7	NGG ringfenced role: revenue recovery	PL
8	0789A Update	NW
9	Credit impacts of 0789 and 0789A	All
10	Summary of actions and agenda for next meeting	PH

# Action 03-0511: Balancing / Cashflow Timeline



★ Residual balancer buyaction taken

★ NGG settlement of buy trade required with ICE Endex at D+2

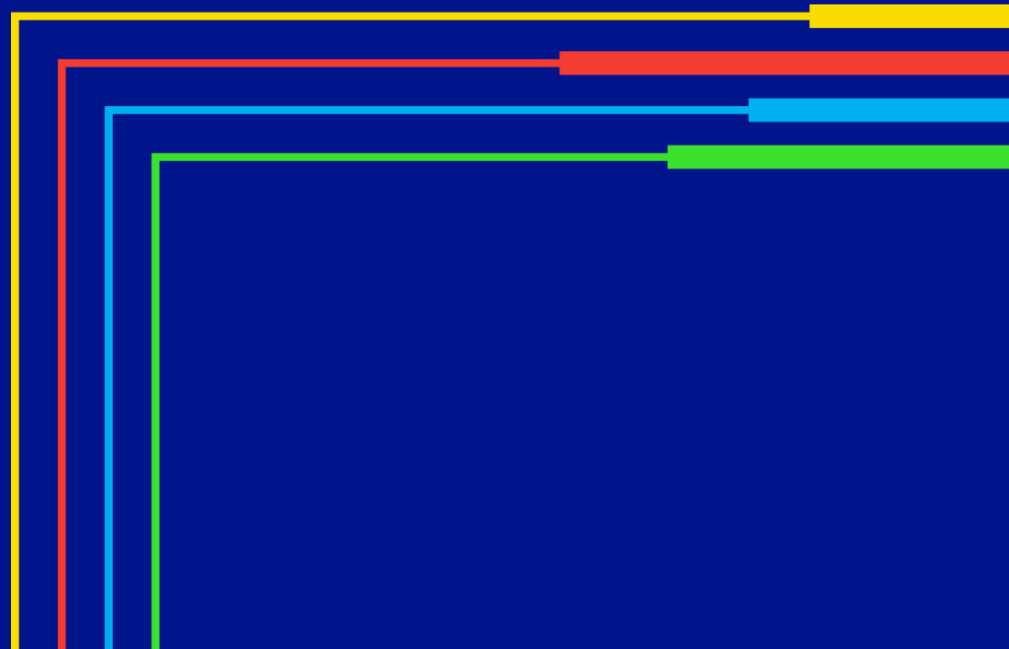
★ Energy Balancing Invoices (EBIs) issued to shippers at M+23 business days for their cashout charges and balancing neutrality charges in month M

★ Shipper settlement due for EBIs from month M 12 calendar days after invoice issue

★ Unpaid amounts from EBIs in respect of month M are smeared to all other Users on M+2 EBIs which are issued at start of M+4

★ Unpaid amounts from month M are recovered from all other shippers 12 calendar days after issue of M+2 EBIs.

# Neutrality Cashflow & Demand Smearing Scenarios



# Cost illustration

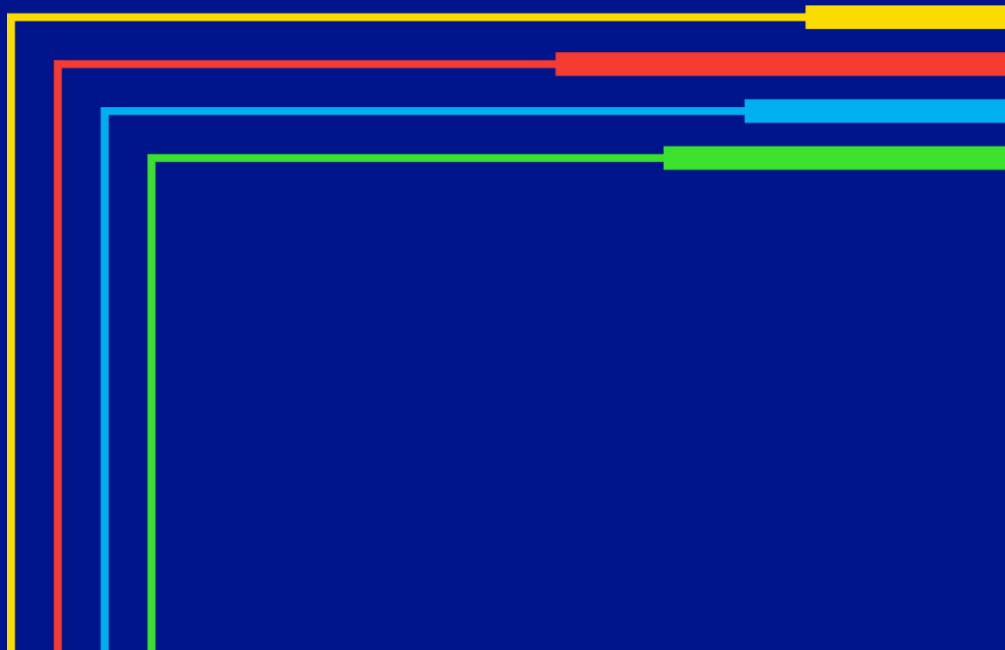
- **We recognise that a full cost benefit analysis is difficult due to the timescales we are working to and the uncertainty of future Shipper / supplier failures and;**
- **In the absence of a full and detailed CBA, we have provided a cost illustrations on 2 portfolio sizes:**
  - Shipper x demand portfolio of ~1.2m Supply Points
  - Shipper y demand portfolio of ~2m Supply points
- **The high level illustration details:**
  - The potential impact upon neutrality and Shippers in the absence of a solution being implemented
  - The 0789 impact: additional cost/impact to Shippers based upon smearing Shipper x and Shipper y's demand to all other Shippers.

# Neutrality Impact

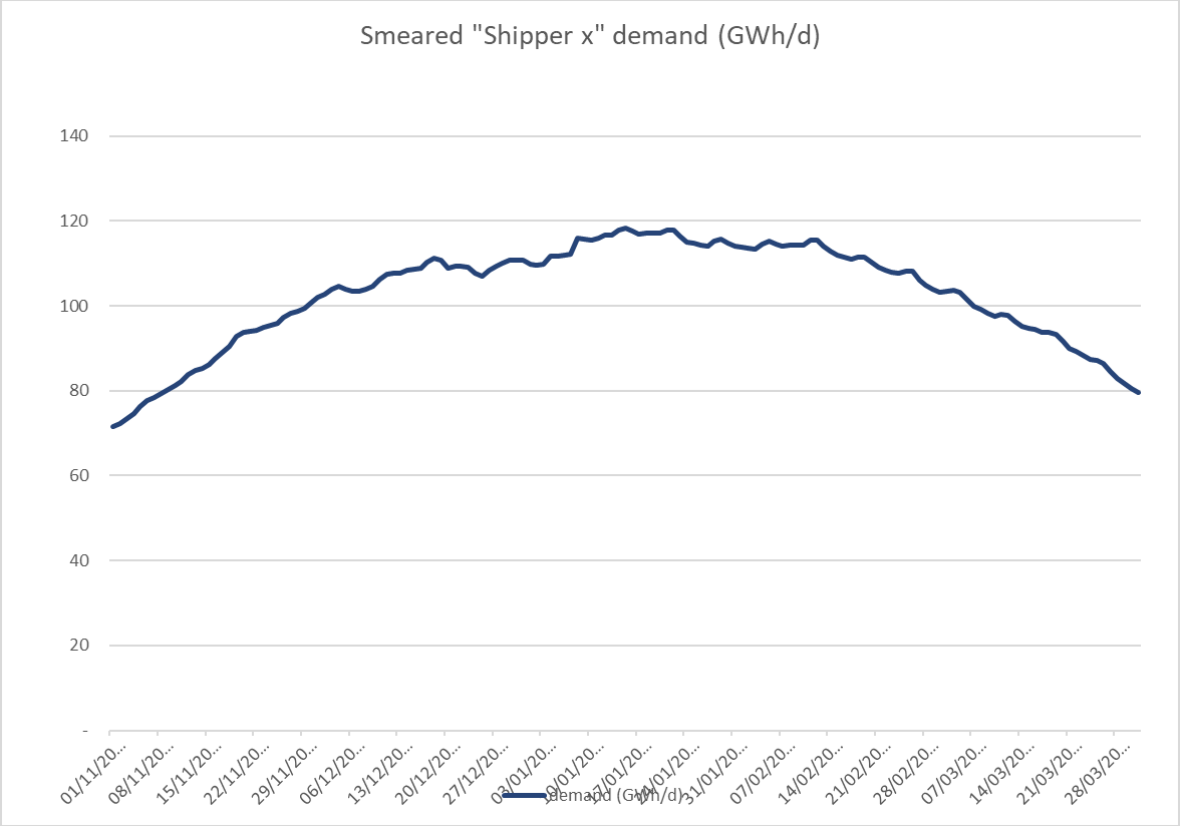
- The following charts show the effect on the balancing neutrality account of National Grid buying the supply shortfall through residual balancing under 4 different scenarios
  - Assumes a gas price of £2.00 per therm – no variation through winter
  - Utilises SND to inform the failed Shipper x demand portfolio
  - Assumes every other Shipper is perfectly balanced
  - Assumes Neutrality pot starts at £zero
- Scenario 1 - Assumes no migration of supply points away from the failed Shipper
- Scenario 2 – Assumes steady migration of supply points to solvent Shippers
- Scenario 3 – as per scenario 1, but also assumes UNC modification 788 is in place and has an 80% of unsupplied demand being delivered
- Scenario 4 – as per scenario 2, but also assumes UNC modification 788 is in place and has an 80% of unsupplied demand being delivered

# Shipper 'x' scenarios

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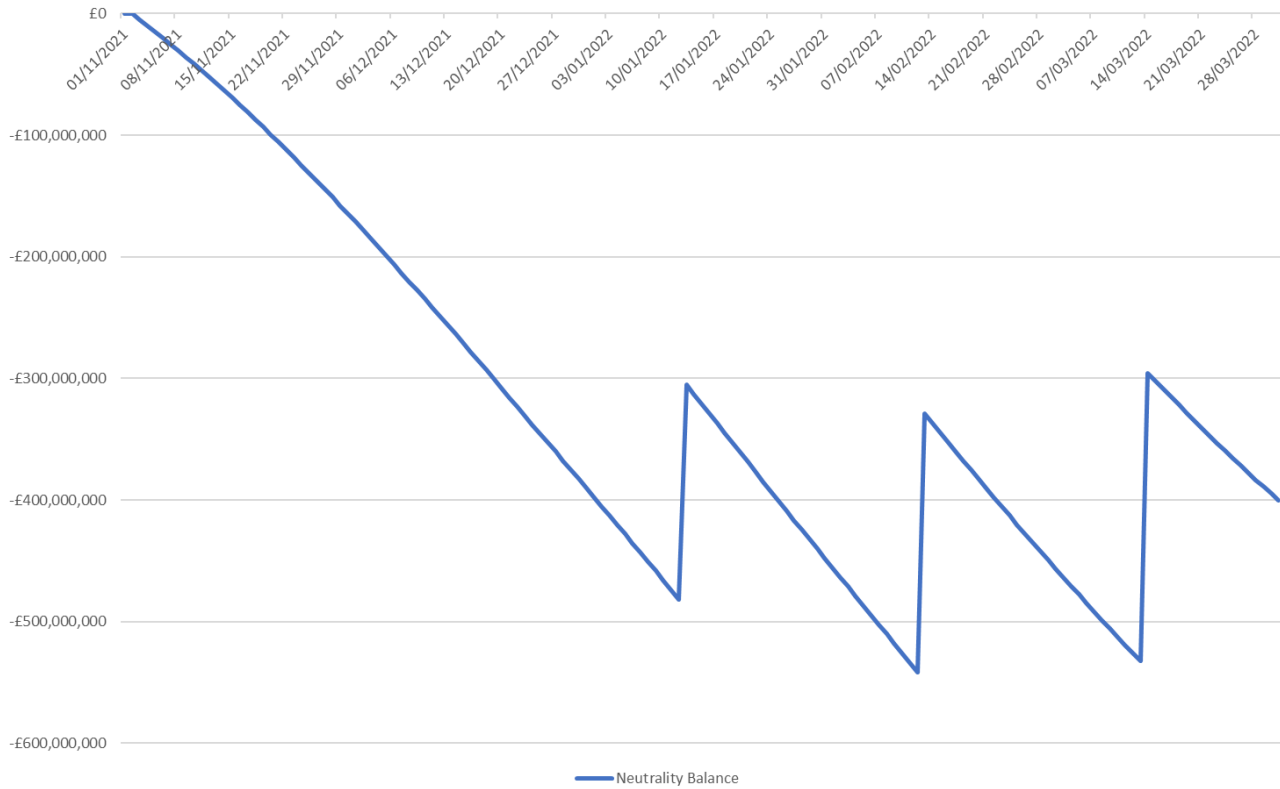
# SND portfolio of Shipper x based on 1.2m Supply points in October





# Scenario 1 – Res Bal actions and assumes no migration of supply points from the failed Shipper

Scenario 1 - Residual Balancing and Neutrality cash flow



- The saw tooth effect is where the National Grid residual Balancing actions are credited back into neutrality through shipper EB neutrality payments
- At its peak, a £500m+ neutrality deficit occurs, likely leading to consequences for residual balancing
- If 789 was implemented, then effectively the line would be flat at, or around, zero.
- Assumption all operating under the DOU pay in full – if not paid then an extended lag in the account.
- Costs could be higher e.g. it could be that the failed shipper shortfall would mean National Grid set SMP more regularly and trade at higher than market prices.

# Scenario 2 - Assumes steady migration of supply points to solvent Shippers

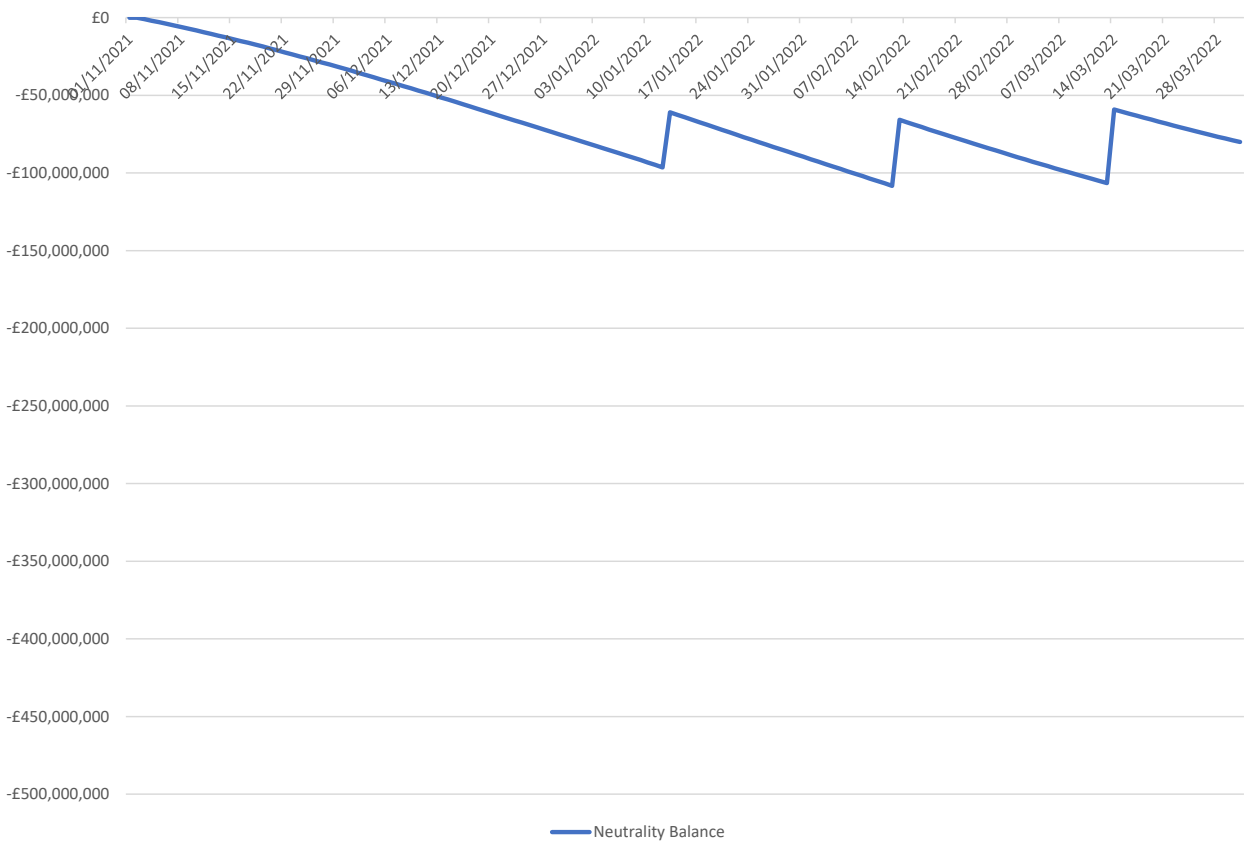
Scenario 2 - Residual Balancing and Neutrality cash flow



- The saw tooth effect is where the National Grid residual Balancing actions are credited back into neutrality through shipper EB neutrality payments
- At its peak, a £90m+ neutrality deficit occurs, likely leading to consequences for residual balancing
- If 789 was implemented, then effectively the line would be flat at, or around, zero.
- Assumption all operating under the DOU pay in full – if not paid then an extended lag in the account.
- Costs could be higher e.g. it could be that the failed shipper shortfall would mean National Grid set SMP more regularly and trade at higher than market prices.

# Scenario 3 – as per scenario 1, but also assumes UNC modification 788 is in place and [80%] of unsupplied demand is up taken

Scenario 3 - Residual Balancing and Neutrality cash flow



The saw tooth effect is where the National Grid residual Balancing actions are credited back into neutrality through shipper EB neutrality payments

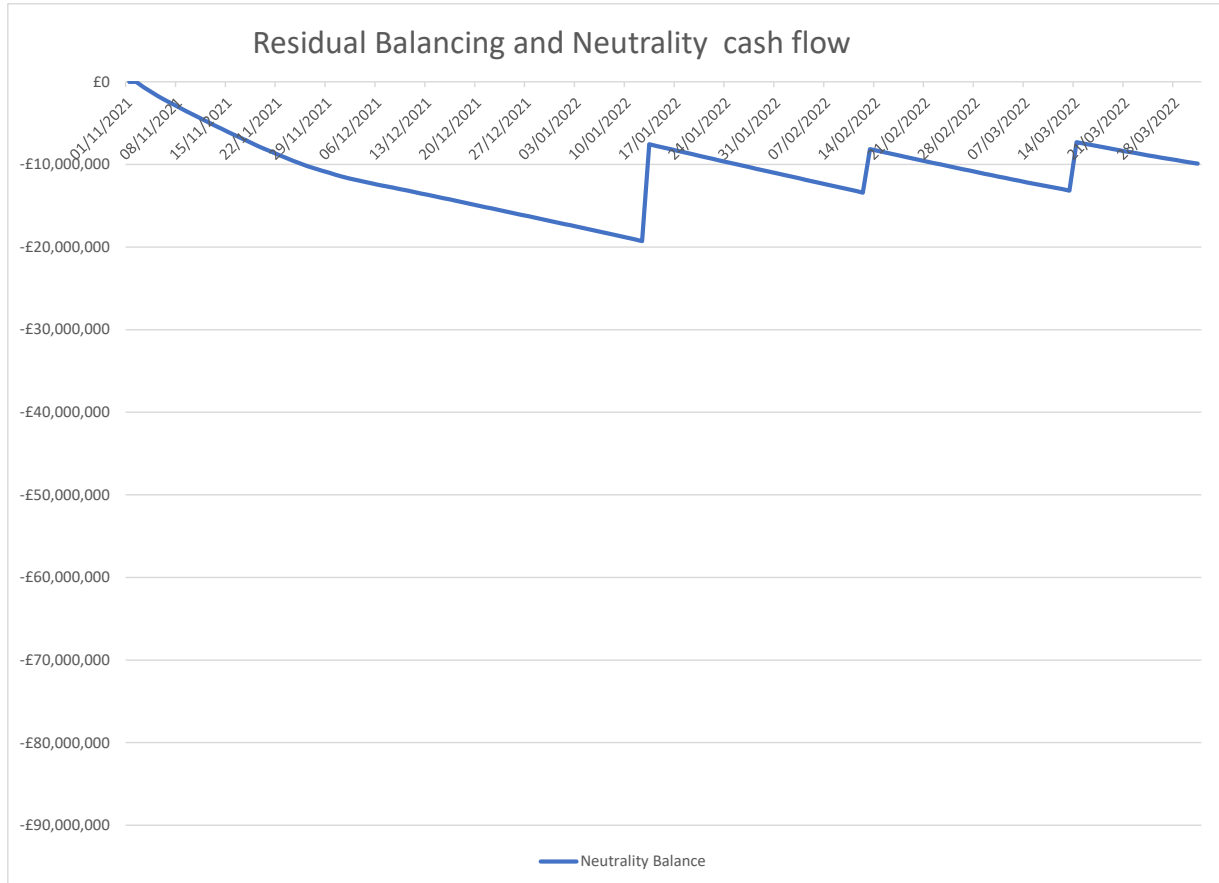
At its peak, a £100m+ neutrality deficit occurs (compared to £500m+ in the absence of mod 788) likely leading to consequences for residual balancing

If 789 was implemented, then effectively the line would be flat at, or around, zero.

Assumption all operating under the DOU pay in full – if not paid then an extended lag in the account.

Costs could be higher e.g. it could be that the failed shipper shortfall would mean National Grid set SMP more regularly and trade at higher than market prices.

## Scenario 4 – as per scenario 2, but also assumes UNC modification 788 is in place and [80%] of unsupplied demand is up taken



The saw tooth effect is where the National Grid residual Balancing actions are credited back into neutrality through shipper EB neutrality payments

At its peak, a £19m+ neutrality deficit occurs (compared to £90m+ in the absence of mod 788) likely leading to consequences for residual balancing

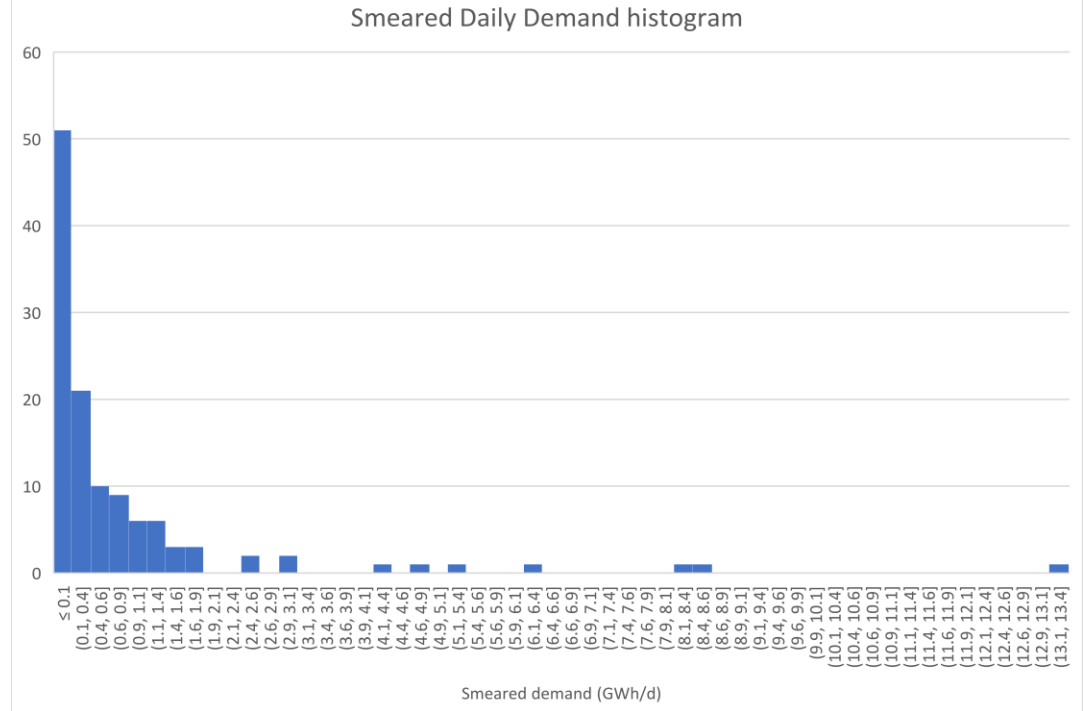
If 789 was implemented, then effectively the line would be flat at, or around, zero.

Costs could be higher e.g. it could be that the failed shipper shortfall would mean National Grid set SMP more regularly and trade at higher than market prices.

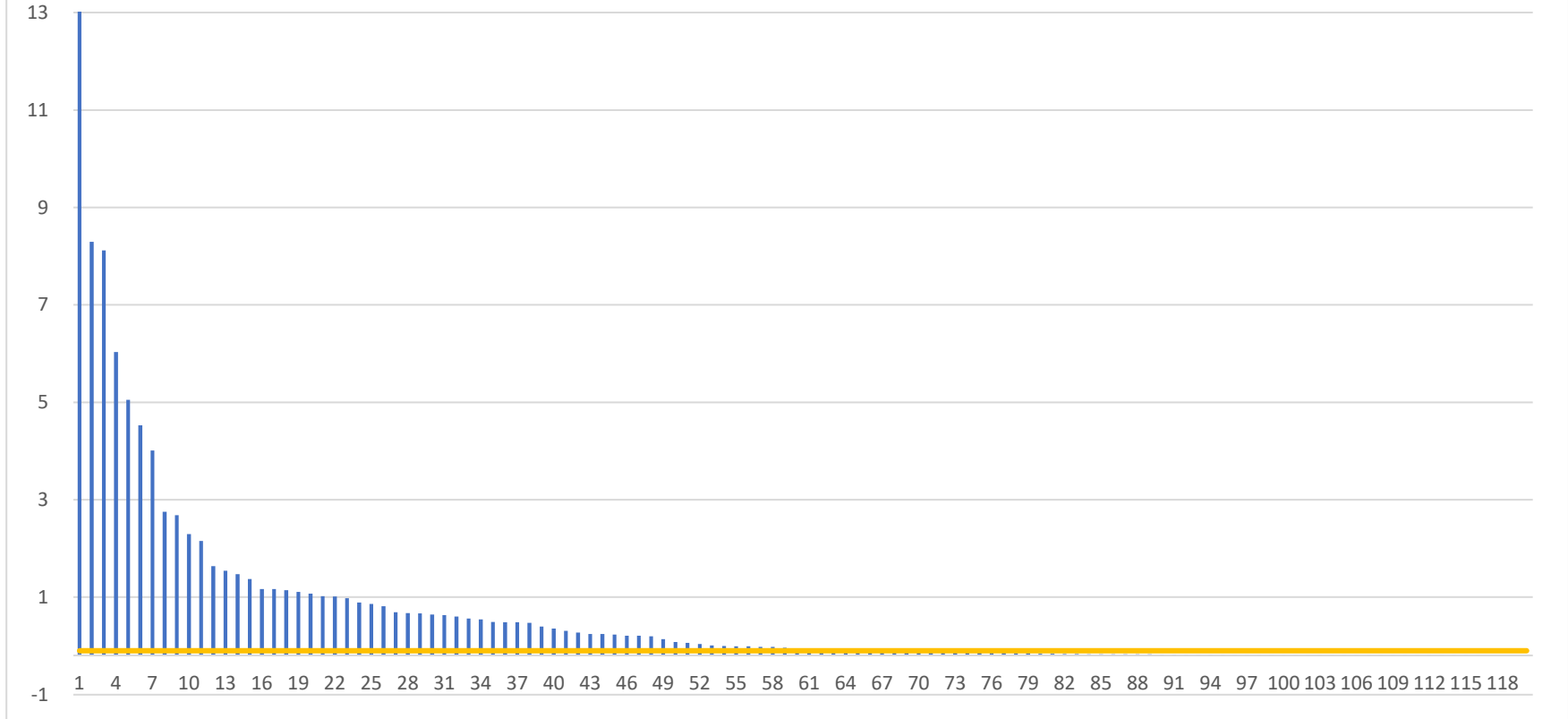
# 0789 solution – demand smeared impact based on Scenario 1 day of 100GWh

- Using real data (see previous slide), we have quantified the smearing of Shipper 'x' demand to all other shippers
- Assumes an average daily demand of ~100 GWh/d and smeared based upon Shippers average monthly market share (throughout).
- Assumes a gas price of £2.00 per therm
- Propose those <0.1GWh don't get a smear – min OCM trade size
- The histogram shows the distribution of the apportionment of that demand in 0.1 GWh/d increments.
- 15 shippers with smear higher than 50k therms.
- ~50 Shippers with smear between 4k therms and 46k therms (average of 21.5kth)

	%	GWh/d	daily cost at £2.00 per therm
max	13.2%	13.2	£902,252.1
avg	0.8%	0.8	£56,833.3
min	0.0%	0.0	£62.6



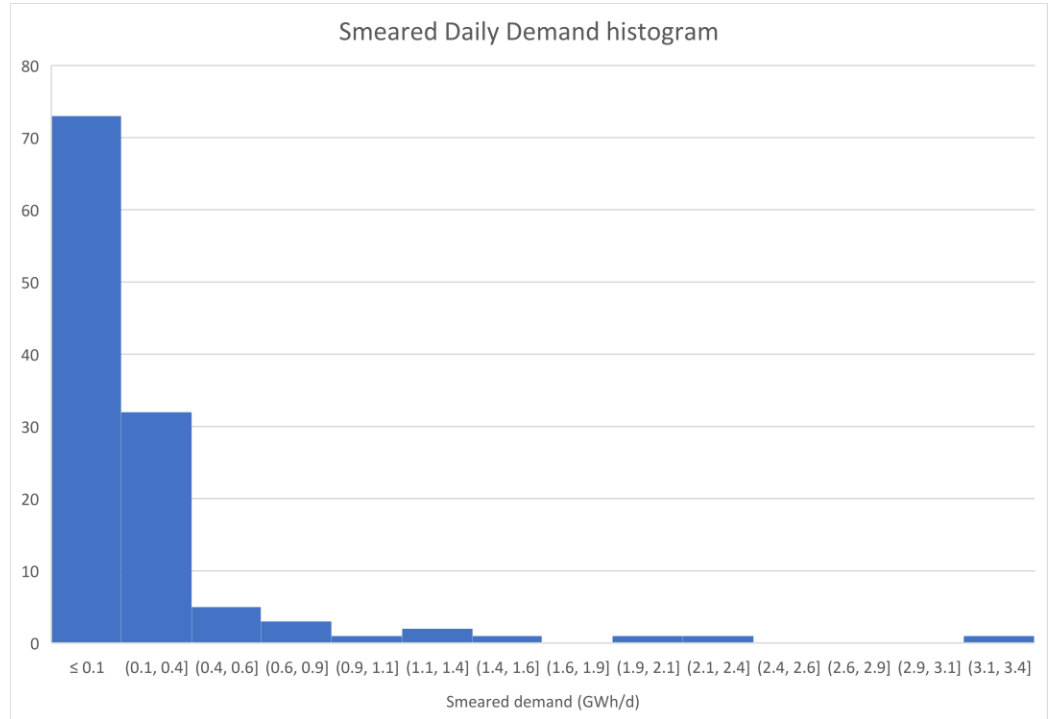
### Smearing Shares on 100Gwh Demand



# 0789 solution – demand smeared impact based on Scenario 3 day of 25GWh

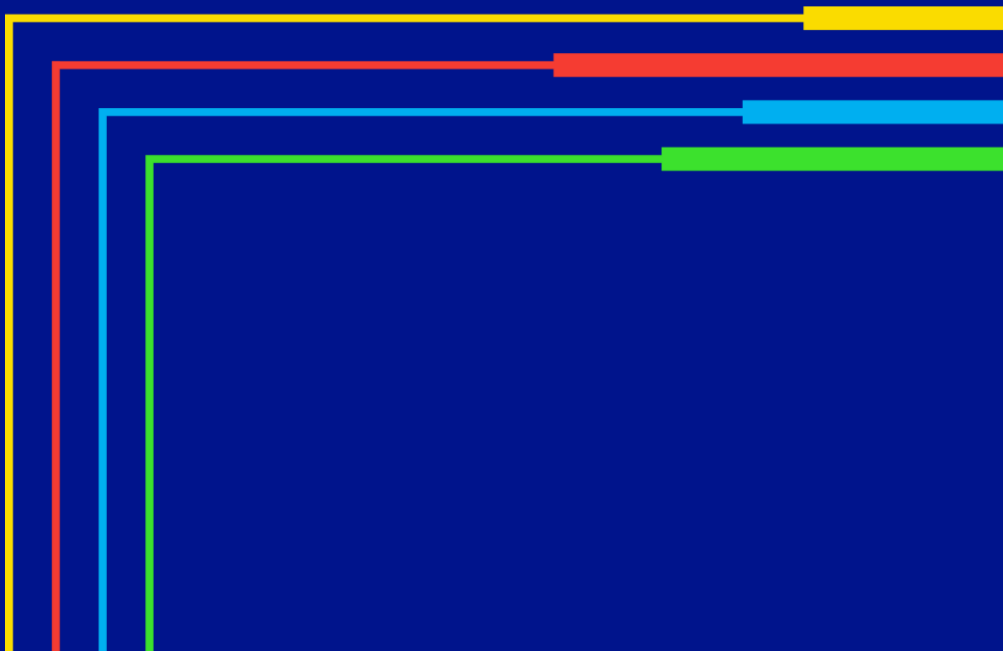
- Using scenario data we have quantified the smearing of Shipper 'x' demand to all other shippers
- Assumes an daily demand of ~ 25 GWh/d which is the max in this scenario and smeared based upon Shippers average monthly market share (throughout).
- Assumes a gas price of £2.00 per therm
- Propose those <0.1GWh don't get a smear – min OCM trade size
- The histogram shows the distribution of the apportionment of that demand in 0.1 GWh/d increments.
- 4 shippers with smear higher than 50k therms.
- ~40 Shippers with smear between 4k therms and 46k therms (average of 12kth)

	%	GWh/d	daily cost at £2.00 per therm
max	13.2%	3.3	£225,563.0
avg	0.8%	0.2	£14,208.3
min	0.0%	0.0	£15.6



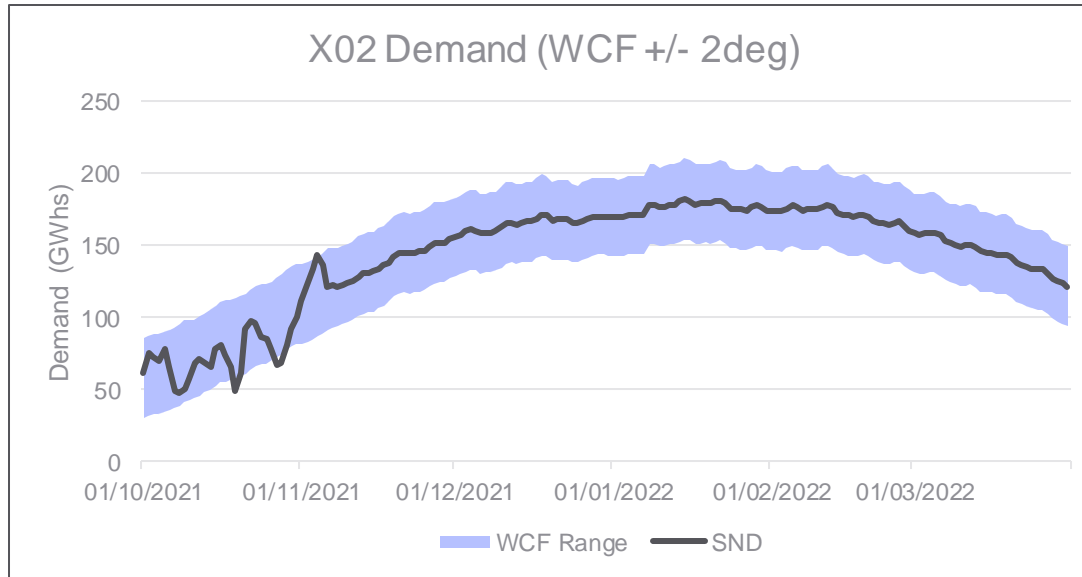
# Shipper 'y' Scenarios

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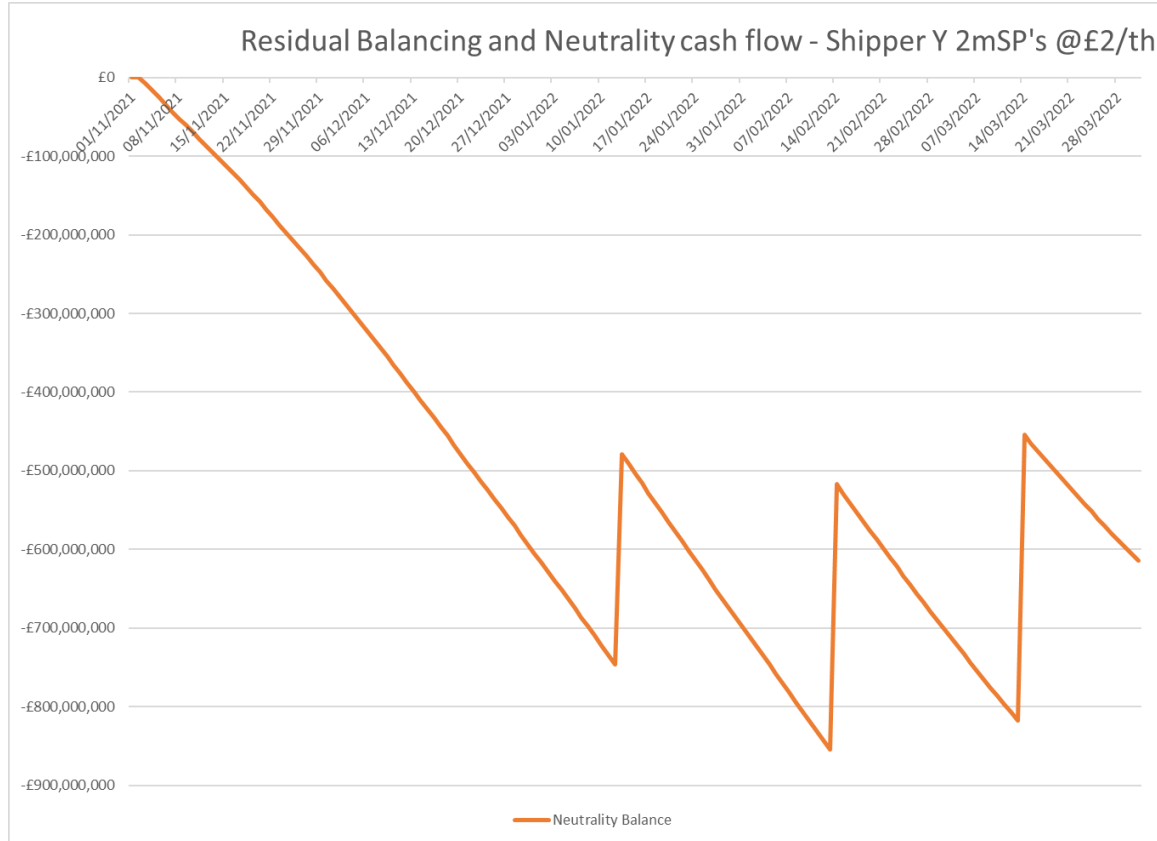




# Shipper Y – 2m SP's Demand profile



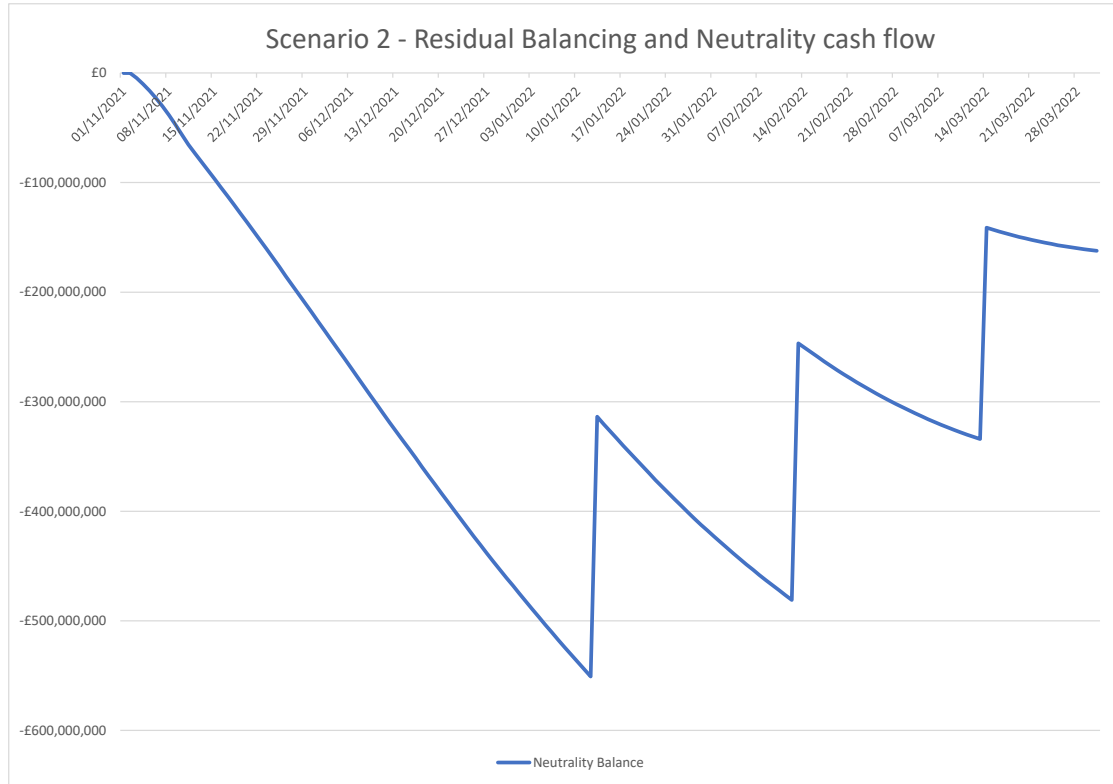
# Scenario 1 – Res Bal actions and assumes no migration of supply points from the failed Shipper



As per Shipper x scenario's

- Max exposure ~£850m in mid February

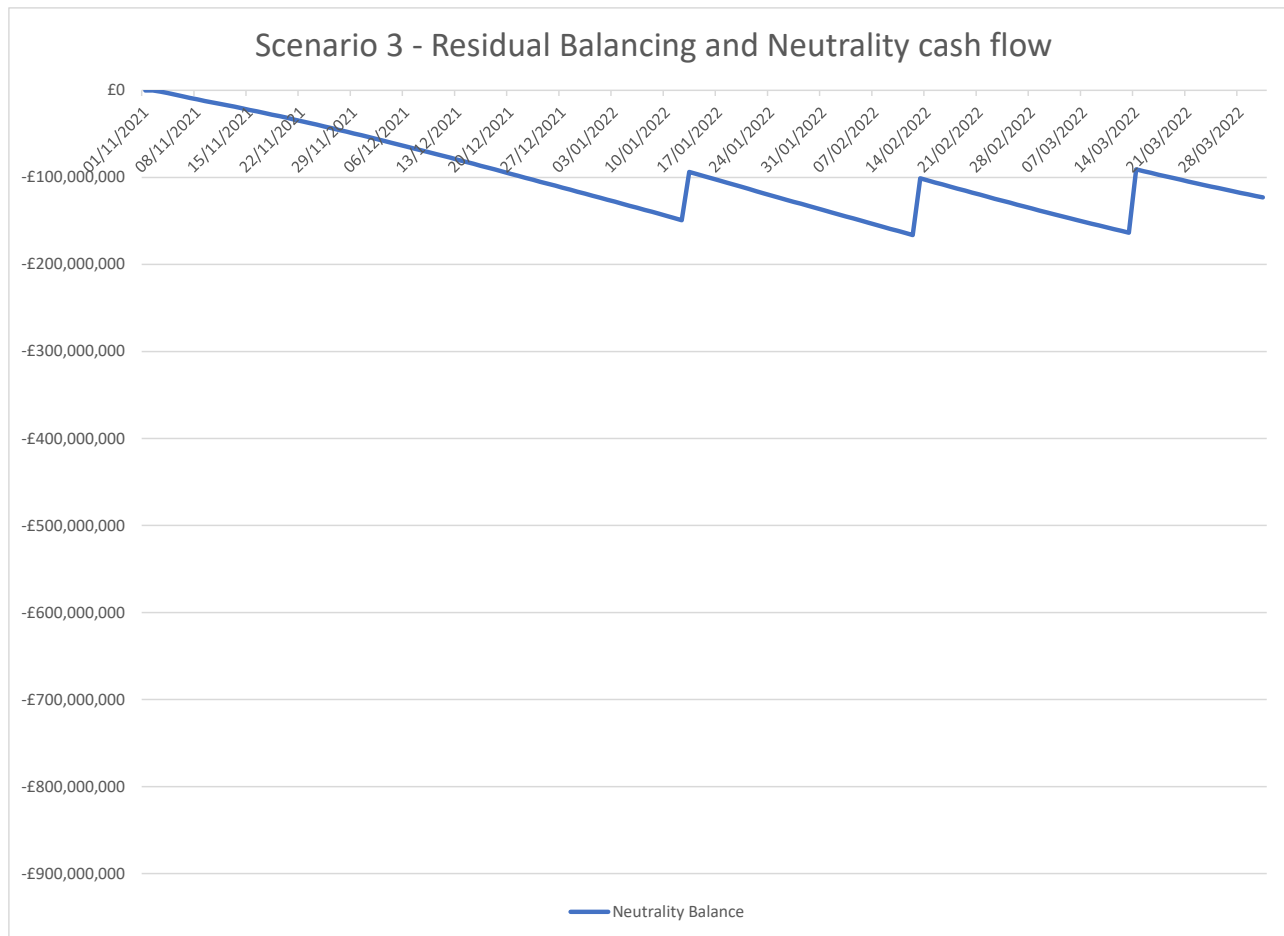
## Scenario 2 - Assumes steady migration of supply points to solvent Shippers



As previous scenario plus;

**-Meter point transfer  
assumption is flat 12.5k/day**

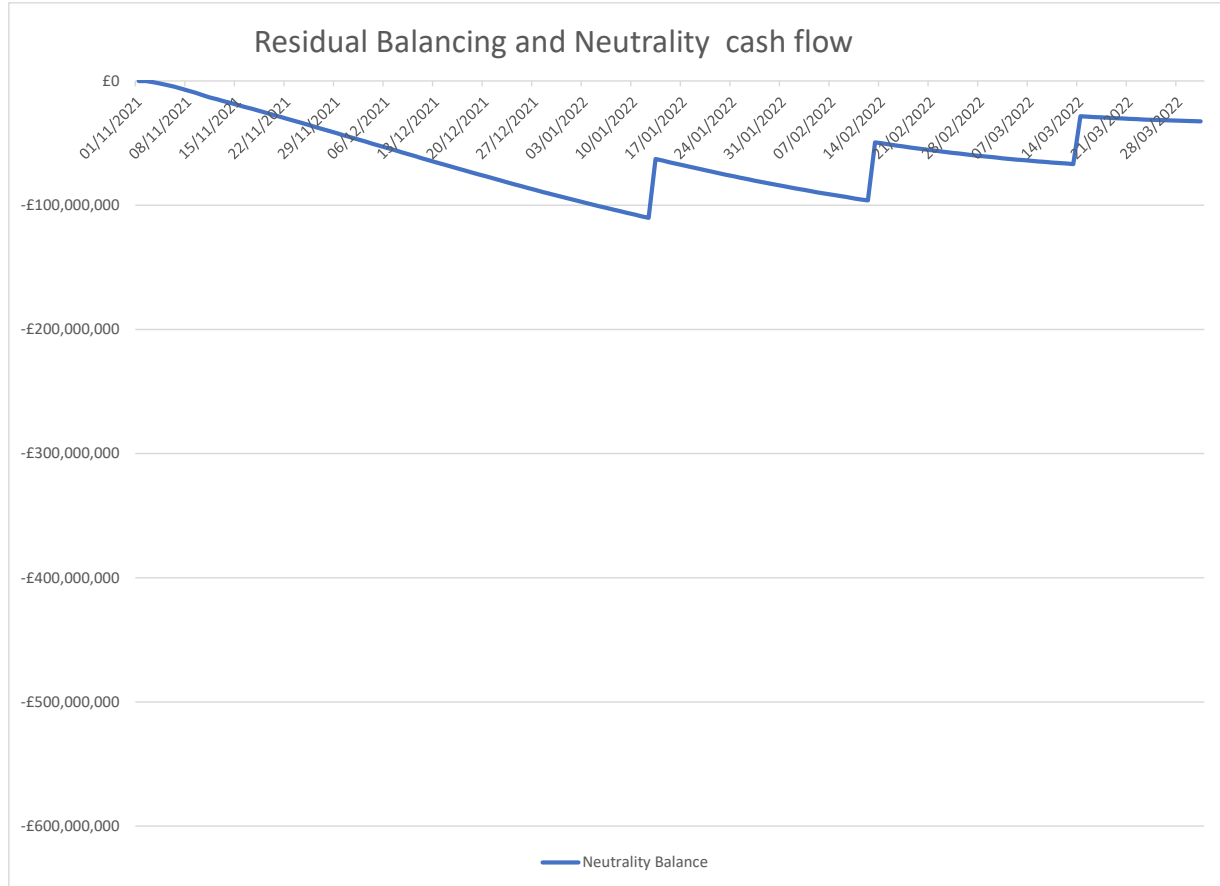
# Scenario 3 – as per scenario 1, but also assumes UNC modification 788 is in place and [80%] of unsupplied demand is up taken



## As per Shipper x scenario's

- **Max exposure ~£180m in mid February**
- **Gradient will increase if lower proportion is taken up under 0788**

## Scenario 4 – as per scenario 2, but also assumes UNC modification 788 is in place and [80%] of unsupplied demand is up taken



### As per Shipper x scenario's

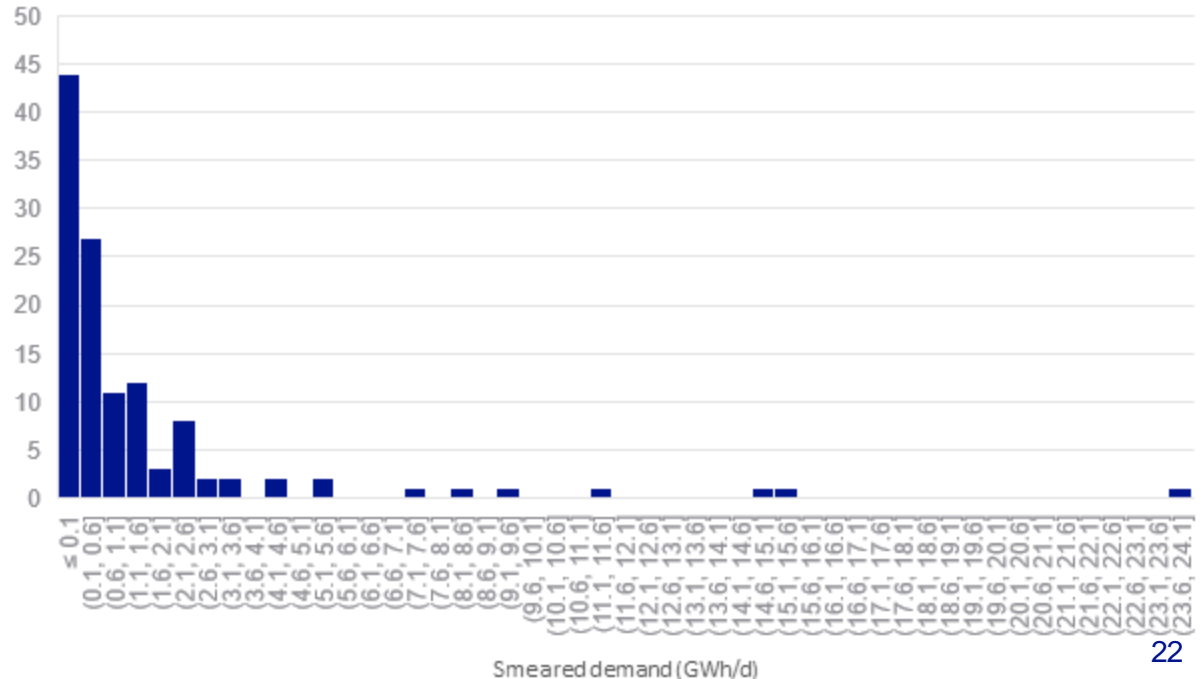
- **Max exposure ~£100m in mid January**
- **Gradient will increase if lower proportion is taken up under 0788**

# 0789 solution – demand smeared impact based on Scenario 1 day of 180GWh

- Using Shipper Y forecasts we have quantified the smearing of that demand to all other shippers
- Assumes a daily demand of ~ 180 GWh/d which is the max in this scenario and smeared based upon Shippers average monthly market share (throughout).
- Assumes a gas price of £2.00 per therm
- Propose those <0.1GWh don't get a smear – min OCM trade size
- The histogram shows the distribution of the apportionment of that demand in 0.5 GWh/d increments.
- ~30 shippers with smear higher than 50k therms.
- ~41 Shippers with smear between 4k therms and 46k therms (average of 20kth)

	%	GWh/d	daily cost at £2.00 per therm
max	13.2%	23.8	£1,624,053.7
avg	0.8%	1.5	£102,300.0
min	0.0%	0.0	£112.6

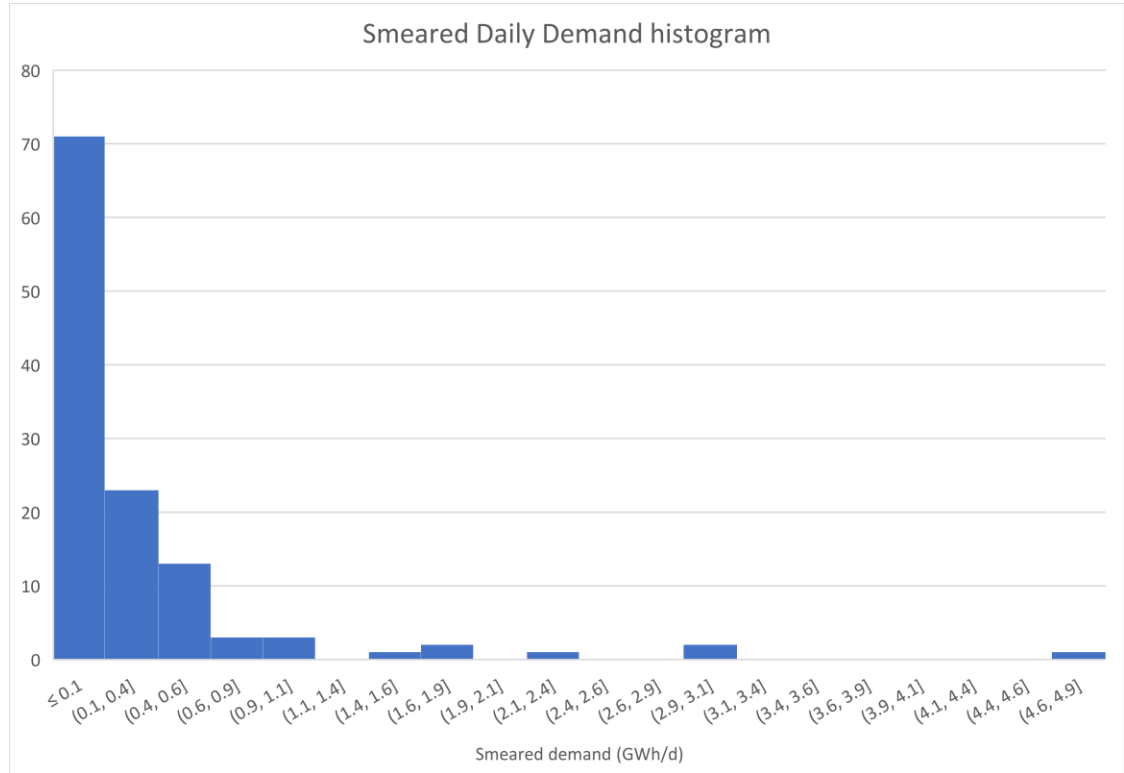
Smeared Daily Demand histogram - Shipper Y



# 0789 solution – demand smeared impact based on Scenario 3 day of 35GWh

- Using Shipper Y forecasts we have quantified the smearing of that demand to all other shippers
- Assumes a daily demand of ~ 35 GWh/d which is the max in this scenario and smeared based upon Shippers average monthly market share (throughout).
- Assumes a gas price of £2.00 per therm
- Propose those <0.1GWh don't get a smear – min OCM trade size
- The histogram shows the distribution of the apportionment of that demand in 0.3 GWh/d increments.
- ~7 shippers with smear higher than 50k therms.
- ~42 Shippers with smear between 4k therms and 46k therms (average of 13kth)

	%	GWh/d	daily cost at £2.00 per therm
max	13.2%	4.6	£315,788.2
avg	0.8%	0.3	£19,891.7
min	0.0%	0.0	£21.9



**NGG Ringfenced Role:**

**Compatibility with NTS Licence  
and EU Balancing Code**



# **Actions 05-0511 and 06-0511: NGG Ringfenced Role**

**Draft Mod 0789A proposes that NGG fulfils the role of procuring gas for supply points that are subject to a supplier deed of undertaking**

**In Workshop 1, it was considered that NGG could do so separately to the residual balancing role, in which the transactions would not contribute to cash-out prices**

**The balancing neutrality account could be used to settle the trades and receive the recovery of those costs from shippers**

**NGG agreed to check the NTS Licence and EU Balancing Code to identify any legal impediments to this option**

# NGG Ringfenced Role: NTS Licence

## Special Condition 9.14 restricts NGG's activities in relation to the acquisition of gas

NGG must not purchase, enter into agreements for or otherwise acquire capacity rights, gas or gas derivatives with the intention of subsequently selling, assigning or otherwise disposing of such assets to third parties

SC9.14.4 sets out that NGG would be permitted to acquire gas in circumstances which include where Ofgem consents, or where the procurement is in accordance with NGG's functions under the UNC

Therefore the Licence does not preclude this option, provided that the UNC is appropriately modified to permit NGG to procure gas in this particular manner

# NGG Ringfenced Role: EU Balancing Code

There is nothing in the EU BC which expressly prohibits a TSO from purchasing gas for purposes other than residual balancing

## Should such activity be separate to residual balancing and cashout?

If NGG were to procure this gas, it should be treated separately from NGG balancing activity and cashout as it would not fit within the parameters for residual balancing

- Recital 5 (TSO to carry out 'any residual balancing ... that may be necessary')
- The definition of 'balancing service', which refers to short term fluctuations in gas demand or supply
- Article 4(1) which similarly points at the meaning of balancing actions
- The overall preference under EU BC for balancing by means of short-term standardised products
- Article 19(3) under which imbalance charges are to be reflective of the prices of balancing actions

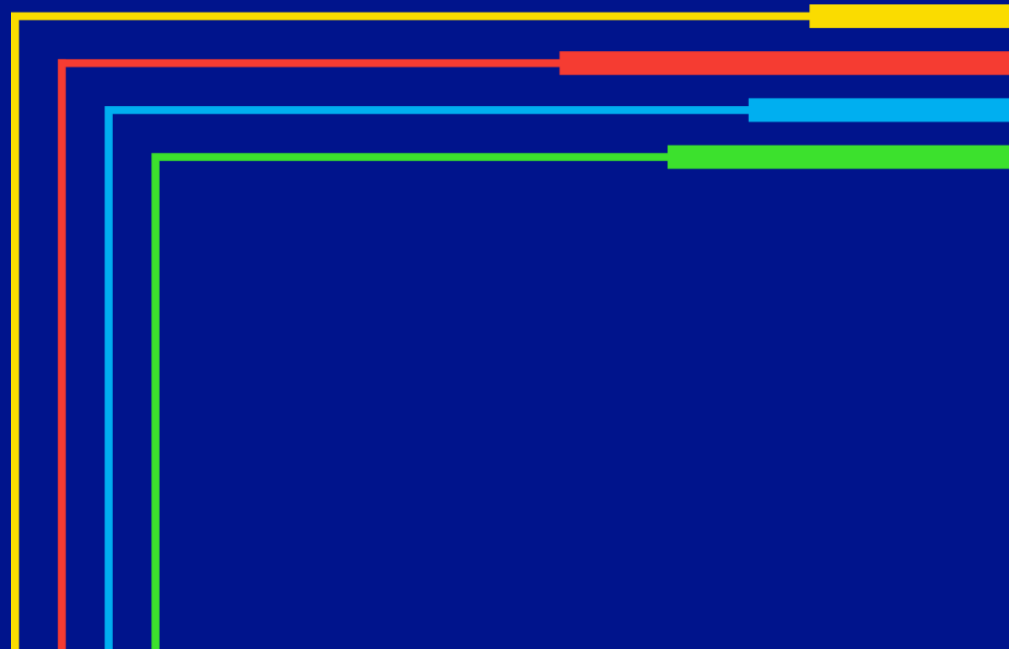
# NGG Ringfenced Role: EU Balancing Code

## Could the cash flows be included within balancing neutrality processes?

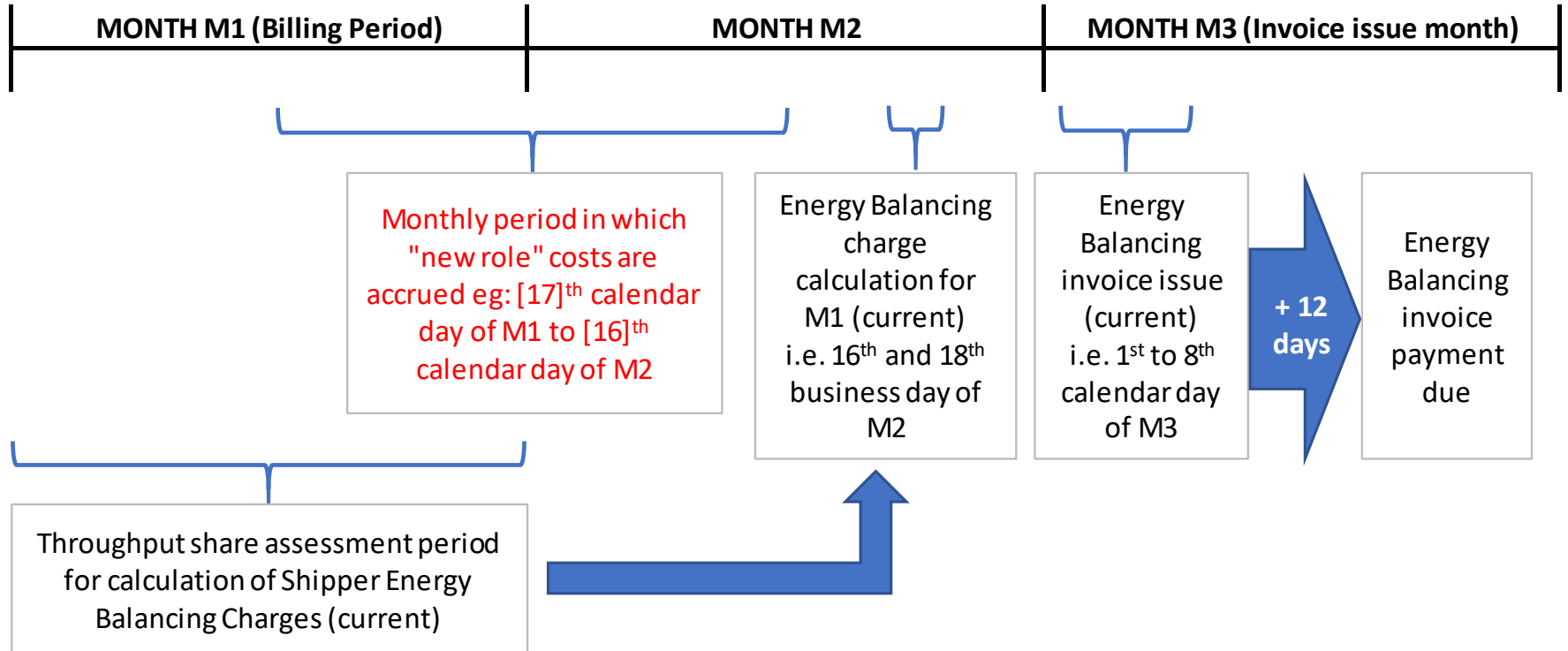
Article 29 prescribes a balancing neutrality mechanism but does not preclude cash flows other than residual balancing from being included

- The requirement under this article is that the TSO does not gain or lose by its balancing activities and that requirement would still be met

# NGG Ringfenced Role: Cost Recovery



# NGG Ringfenced Role: Cost Recovery (Action 04-0511)



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