Ofgem Security of Supply Significant Code Review - Cash Out Reform

22 June 2012

Agenda

- Aims of business rules
- Process Overview
- Overview of issues raised in Winter workshops
- Additional Sections not covered

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Aims of the Business Rules



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Aims of the Business Rules

- Aim to provide the ‘how’
- Clarify the detail
- Used to provide guidance on the extent of system changes required to implement
- Looking for industry to comment
- Focused on the UNC

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Overview of Prevailing and Proposed GDE Cashout Processes

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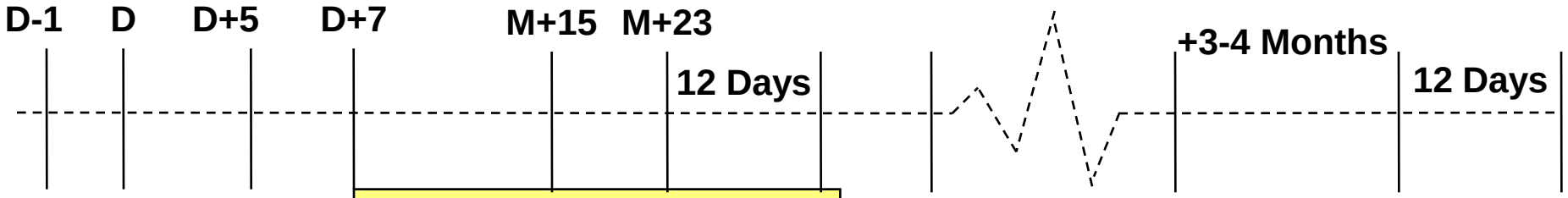
Current Process

1. Exit Close Out (D+5)
2. Entry Close Out (M+15)
3. User Imbalances Calculated

5. Cashout & other Balancing Neutrality Charges included within EBI
6. Payment due within 12 days



4. D is included in Energy Balancing Indebtedness at D+7

7. PEC process complete

Reference: BR 5.

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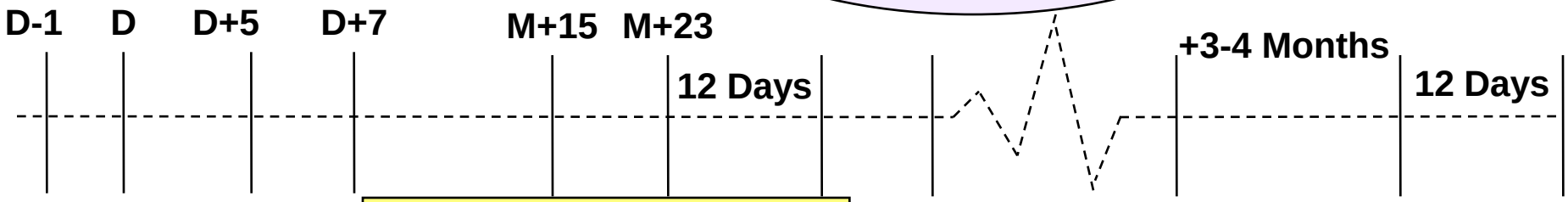
Proposed Process

1. Exit Close Out (D+5)
2. Entry Close Out (M+15)
3. User Imbalances Calculated

5. Cashout, DSR payment & other Balancing Neutrality Charges included within EBI
6. Payment due within 12 days



4. D is included in Energy Balancing Indebtedness at D+7

7. PEC process complete

9. DSR curtailment payment to shippers

Overview of Issues Raised at Previous Workshops



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Overview of Issues Raised at Previous Workshops

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- GDE dynamic cash out (BR 1.)
- Neutrality cash flows (BR 1.3)
- Shortfall of funds for DSR payment (BR 4.)
- DSR payment timescales to consumers (BR 5.)
- Impact of NDM curtailment on imbalance positions (BR 2.)
- Derivation of DSR NDM Curtailment Volume at Network Isolation (BR3.)
- Treatment of commercial DSR contracts (BR 7.)

GDE Dynamic Cashout

Business Rule 1.

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Reference: BR 1.

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Dynamic Cash out

	Day 1 Stage 2, 3 & 4		Day 2 and beyond Stage 2, 3 & 4	
	Short shippers	Long Shippers	Short shippers	Long shippers
Maximum Price (cap)	None	None	VoLL	VoLL
Cash out Price	SMP (Buy) VoLL post DSR	SAP	SMP (Buy) VoLL post DSR	SAP
Current Arrangements	SMP (Buy) for the day	SAP for the day	SMP (Buy) for Day 1	SAP for Day 1

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Neutrality Cash-Flows



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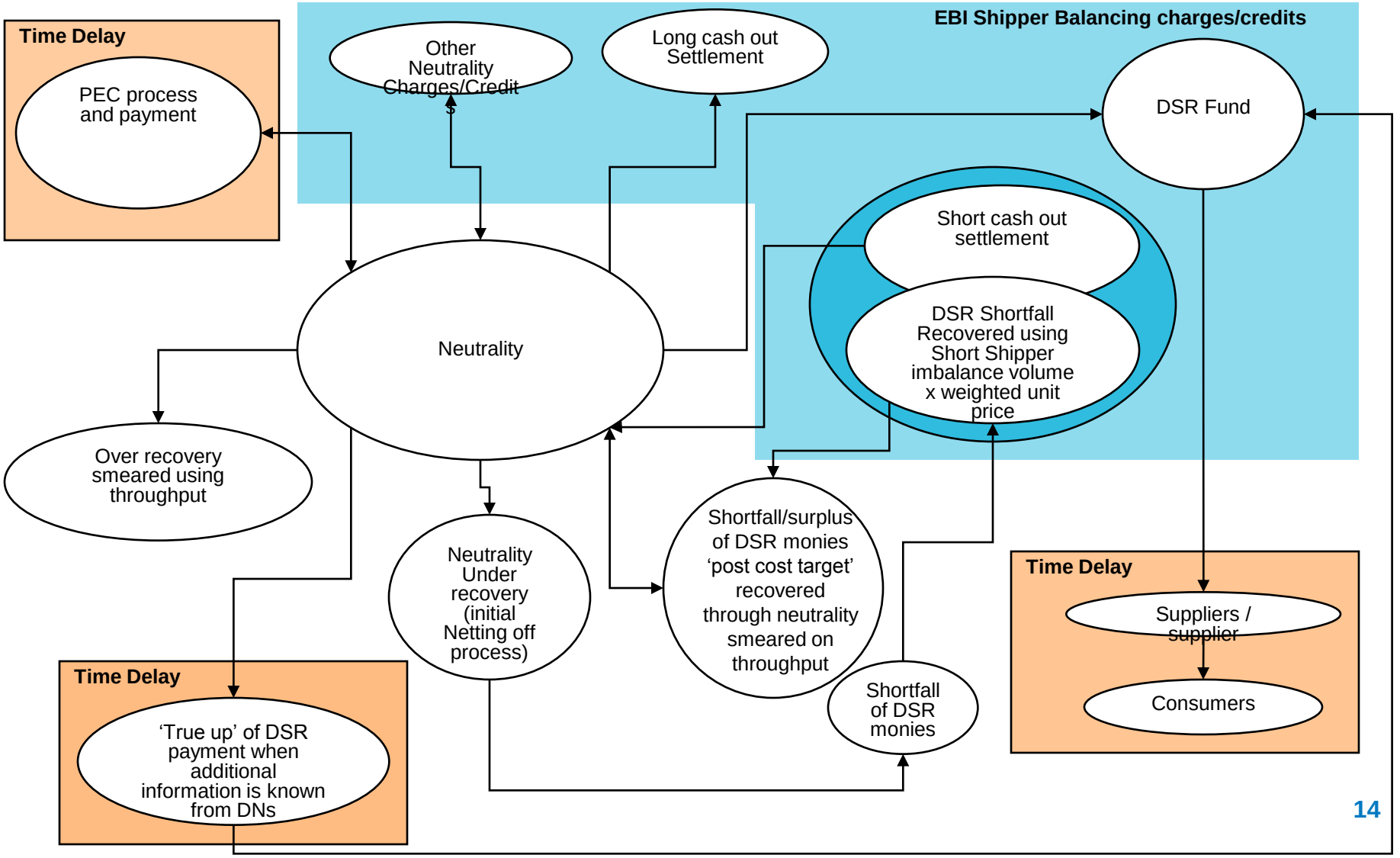
Balancing Neutrality Mechanism

- What is balancing neutrality?
  - UNC section F1.1.2 (d)

    “Balancing Neutrality Charges" are amounts payable by or to National Grid NTS, so that it does not gain or lose by the payment and receipt of Market Balancing Action Charges, Daily Imbalance Charges, Scheduling Charges and other amounts specified in and in accordance with paragraph 4;”
  - Mechanism for distribution of imbalance cash flows and recovery of SO costs
  - Net cash flow is approximately £20m per annum to the industry

Neutrality – Proposed Development



Shortfall of Funds for DSR payments

Business Rule 4.

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Shortfall of payments

- Two types of shortfall
  - Shortfall in required DSR funds
  - Non-payment of EBI

Reference: BR 4.5 (a)

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Shortfall in required funds

- Post EBI net off: any shortfall in required DSR funds:
- Initially targeted at short shippers

$$\frac{\text{Shortfall}}{\text{Greater of the total volume of involuntary DSR or Total volume of short shippers imbalance position}} \times \text{Volume of shippers short position}$$

- Remaining shortfall recovered by neutrality

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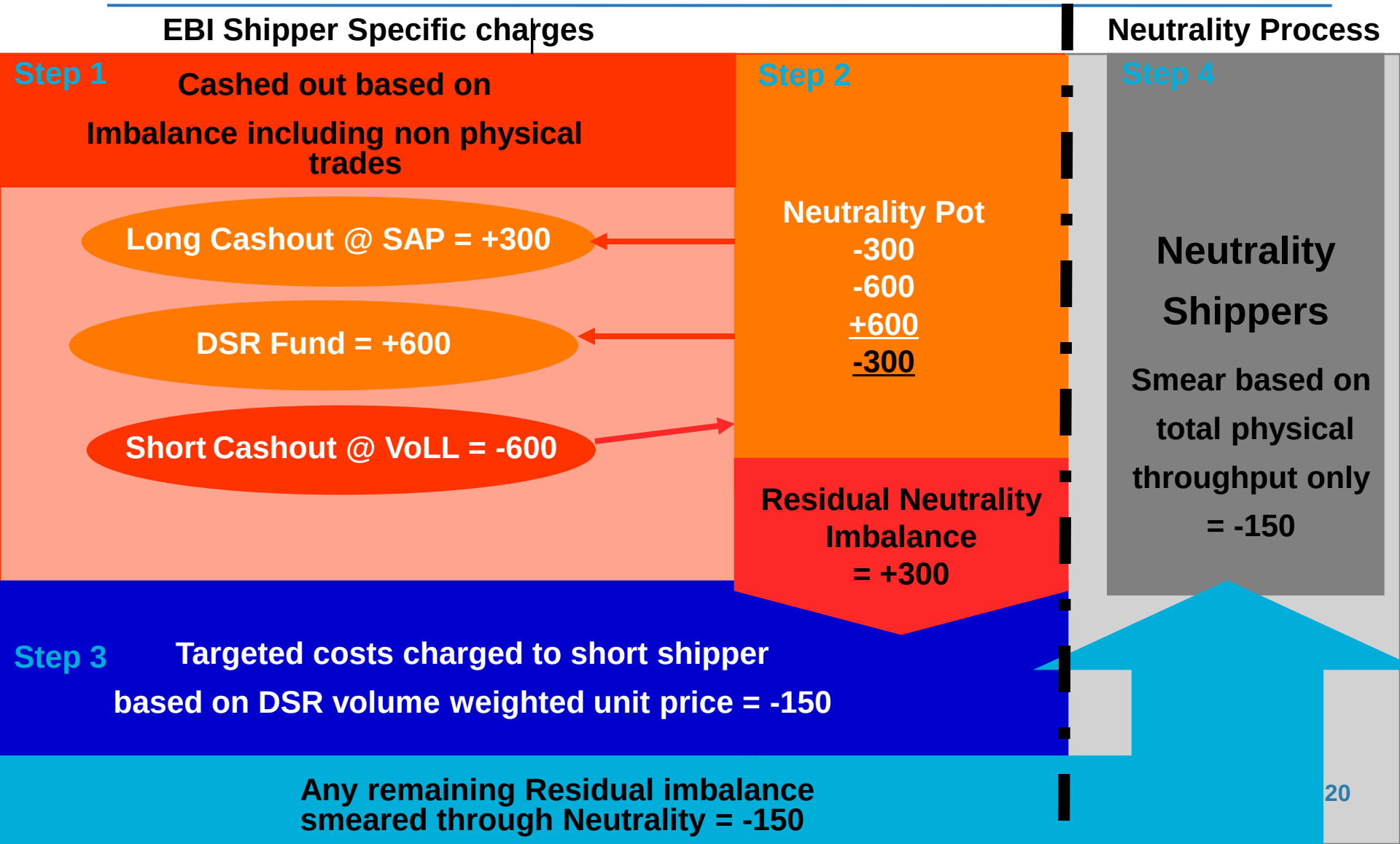
Shortfall due to non payment of EBI

- Non-payment of EBI
  - May cause significant ‘hole’ in Neutrality
  - Considering ways to mitigate this using DSR fund
  - Non-payment recovered as is i.e. through Neutrality
  - Recovery of non-payment to cover shortfall may take 2 – 3 months depending on invoice timescales
  - Payment to shippers will only be made once DSR fund is ‘full’

Mitigation of financial impact, associated with shipper default, on the Neutrality Account

- Proposed approach to address this issue as follows:
  - For Energy Balancing Invoice (EBI) purposes the total value of required DSR funds will be accounted within a new DSR account.
  - DSR account will be accounted for as a Balancing Neutrality Charge and invoiced in the initial EBI (at M+23).
  - As a Neutrality Balancing charge, any costs required to pay the account will be netted off against the aggregate of all Shippers' Balancing Neutrality Charges within the same EBI.
  - DSR credit payments from the account to shippers will not be effected until [M+4M].
  - Funds associated with the DSR account will reside in the neutrality account until such time as the funds are required to be settled as DSR credits due to Shippers.
- This should reduce the Neutrality Mechanisms exposure to costs associated with shipper default.

Example: Netting off Charges (including DSR)



Summary of Short Shipper charges associated with short Imbalance position:

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Charge	Calculation
Short imbalance cashout	Imbalance Volume X VoLL
Targeted shortfall cost for required DSR Fund	Imbalance Volume X weighted Unit price
Targeted costs for PEC charges	Imbalance Volume X VWAPEC

M+28

~M+M4

= total cashout cost to short shippers

Payment Timescales

Business Rule 5.

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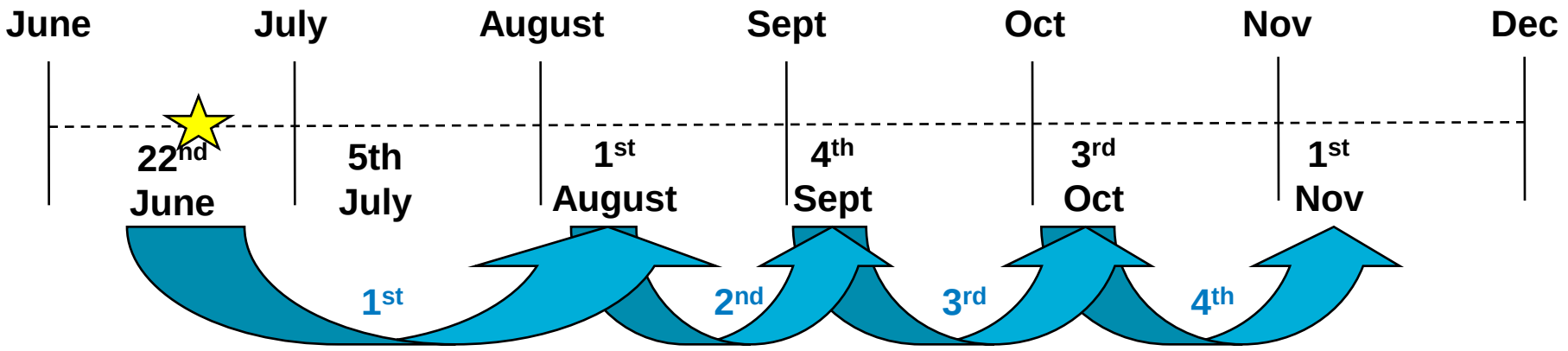
Timescales for Payment of DSR

What would timeline look like if we had a GDE today…….



'1st' Energy Balancing Invoice;
- Cashout charges
- Balancing Neutrality Charges
- Issued April 2nd
- Payments Due April 14th

'2nd' Energy Balancing Invoice;
- Additional DSR Fund charges for NDM 'true up'

3rd' Energy Balancing Invoice;
- Additional DSR Fund charges for shipper insolvency

'4th' Energy Balancing Invoice;
- DSR Payments to shippers
- Additional DSR Fund credits
- Post Emergency Claims payments

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DSR Payments to defaulted shippers

- Issue is that if a shipper has defaulted, what happens to the DSR payments to their customers?
  - Prefer to withhold payment until customers are transferred to new supplier / shipper
  - Considering options to do this

Impact of NDM curtailment on shipper imbalance position

Business Rule 2.

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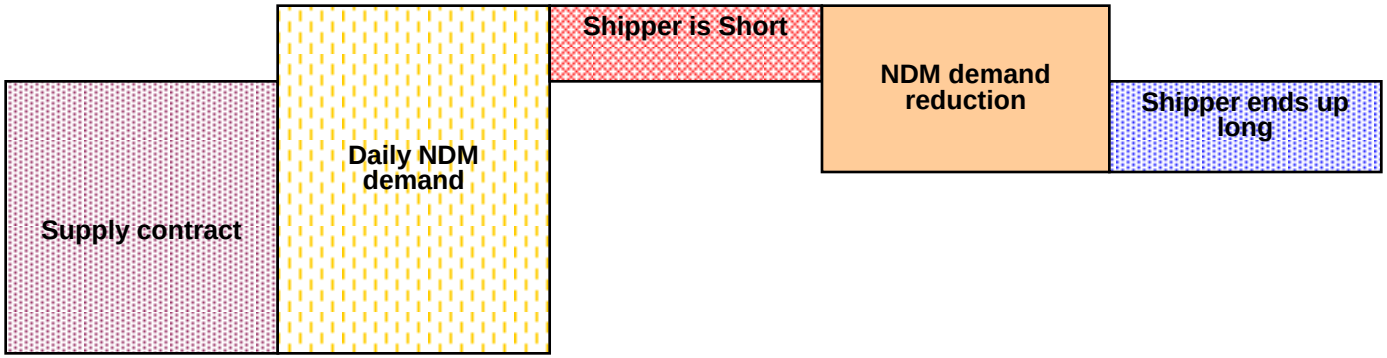
Impact of NDM DSR

- Market participants balance positions are changed due to reduction in demand.
- Issue exists currently :
  - Under SCR proposals, there is the potential for under-recovery of DSR payments with change in market length.

Potential impact of NDM DSR on market length



Market Balancing with NDM Demand Interruption

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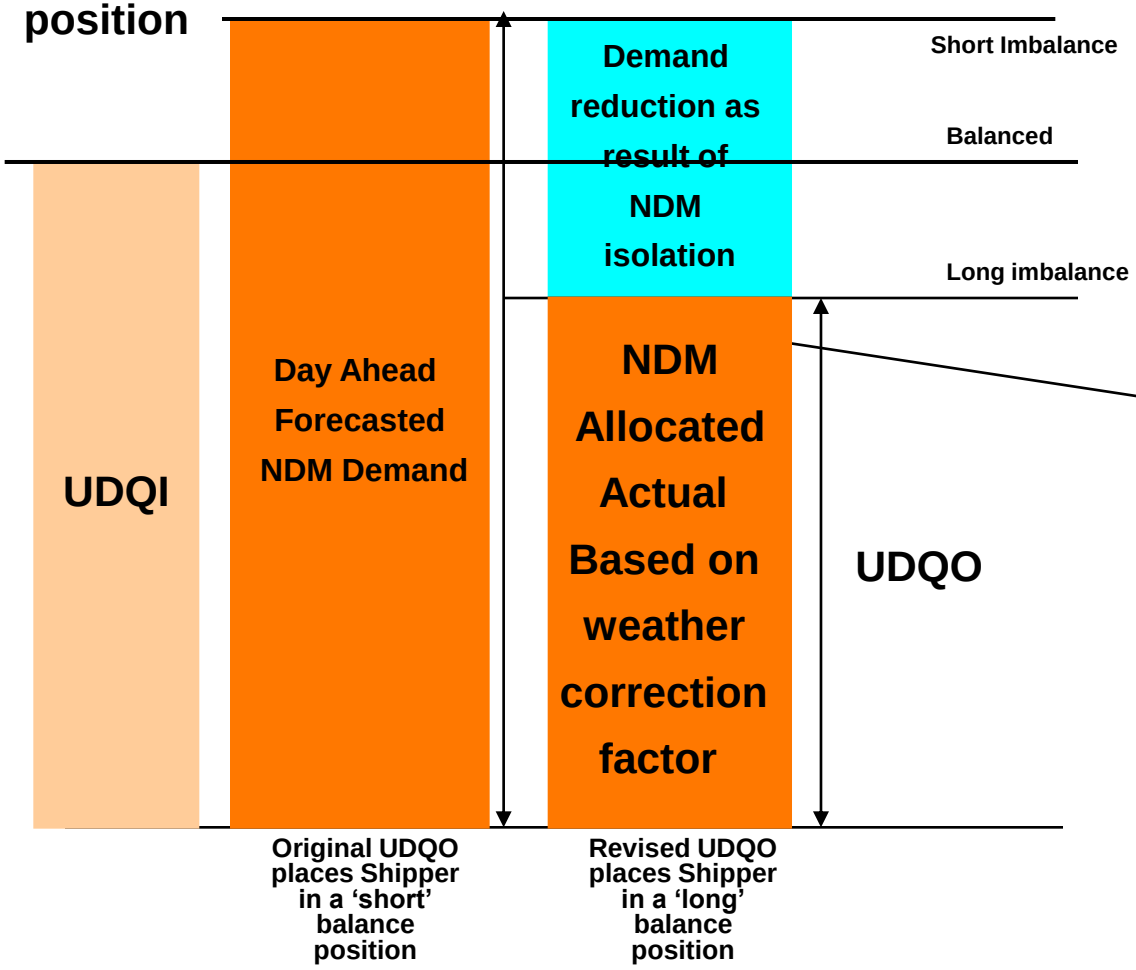
Impact of NDM Isolation on the balance position of an NDM Portfolio Shipper that is in a short balance position



Reduction in NDM Allocation dependent on weather sensitivity of demand

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Impact of NDM curtailment

- During Firm Load Shedding NDM offtake curtailment reduces the LDZ's aggregate NDM allocation for the day.
- All NDMs, curtailed or not, will have a reduction in allocation.
- Reduced NDM allocation, reduces Shippers' UDQO, reducing Shippers' financial exposure to high cashout costs and market prices.
- For balancing purposes, the NDM uplift seeks to maintain all shippers' UDQO position at the level that reflects the NDM forecasted allocation that would have been applied had there been no Firm Load Shedding.

Reference: BR 2.1 (a)

Market balancing with DM Demand Interruption

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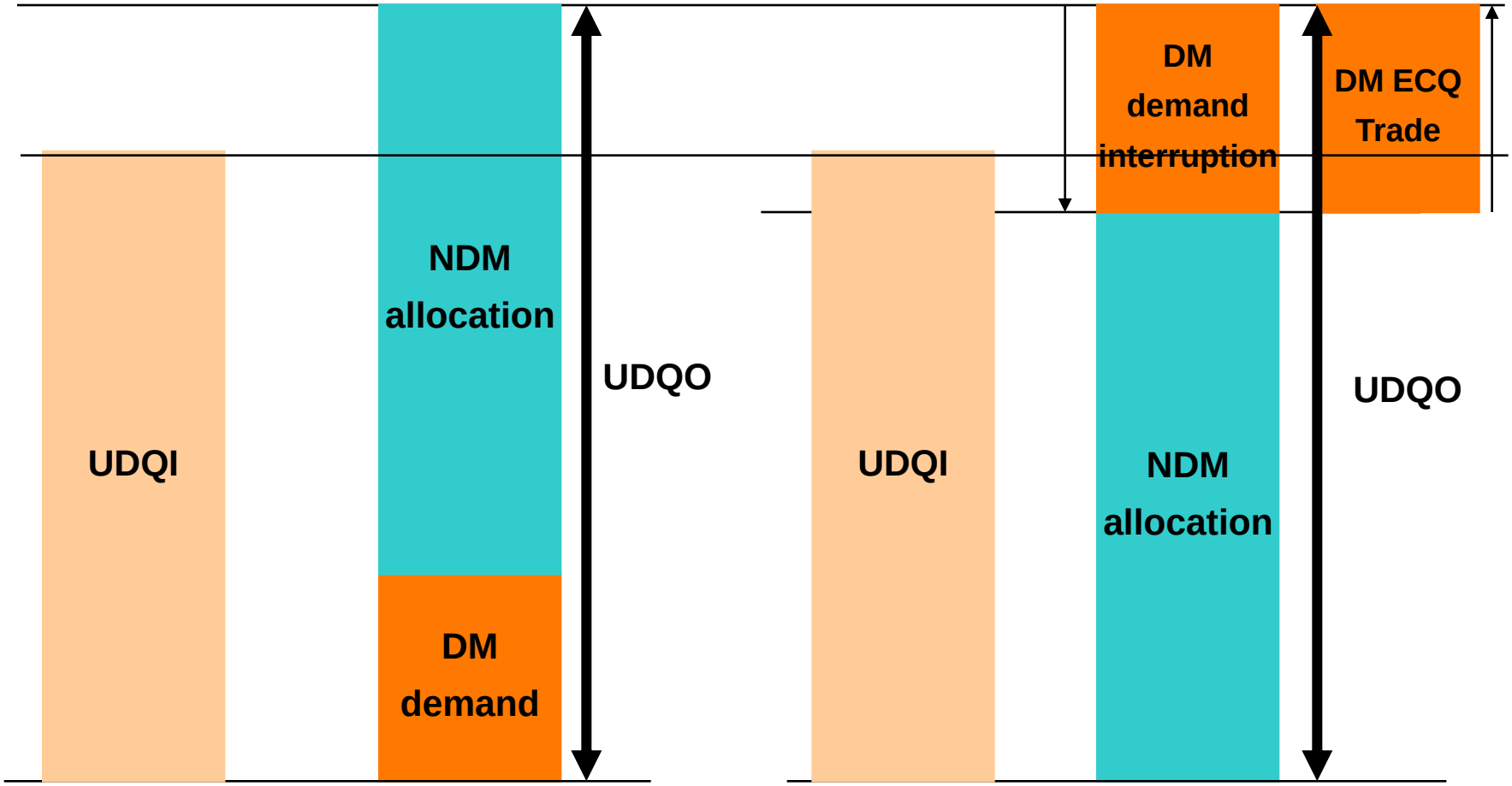

Market balancing with NDM Demand Interruption

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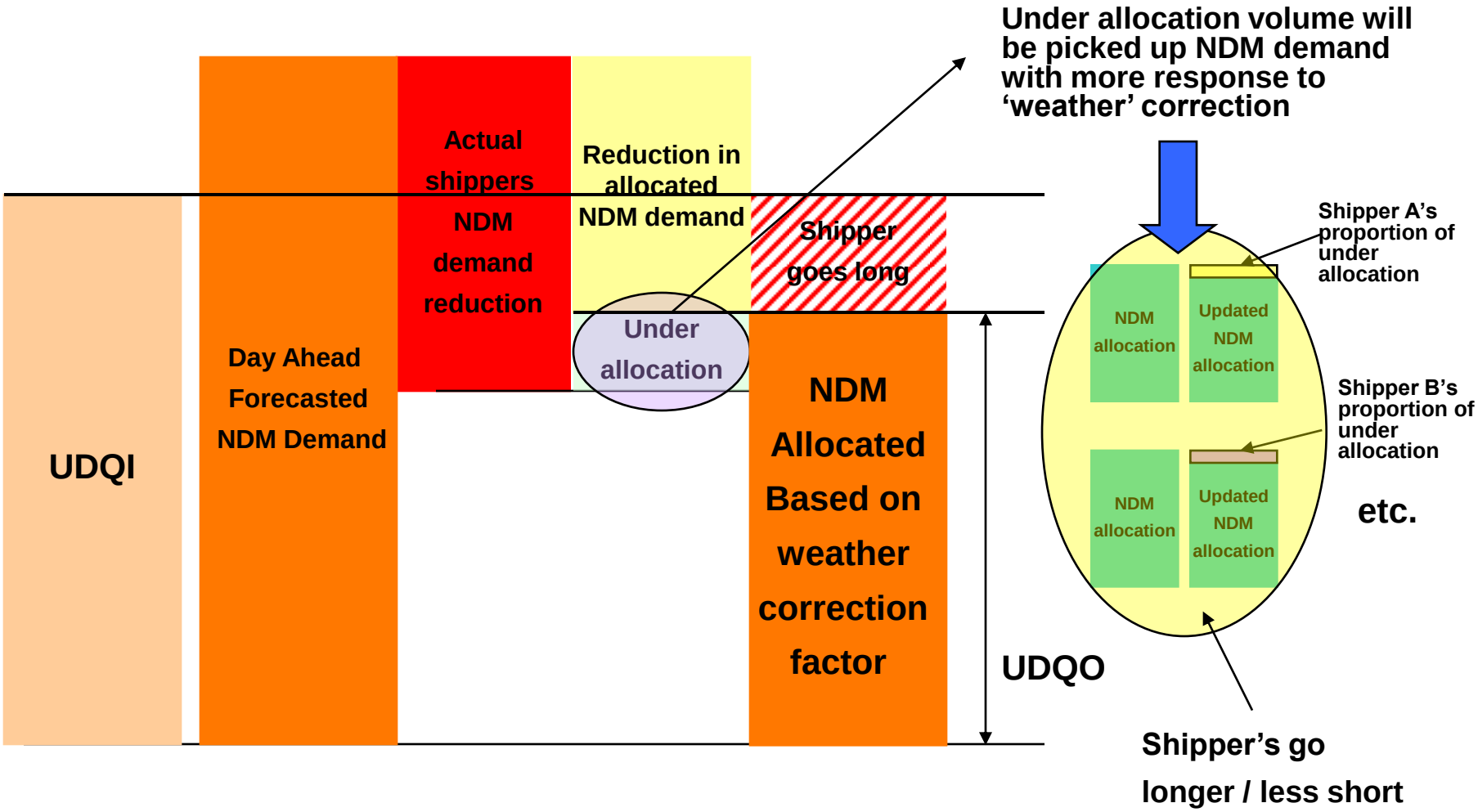

Market Balancing with NDM Curtailment

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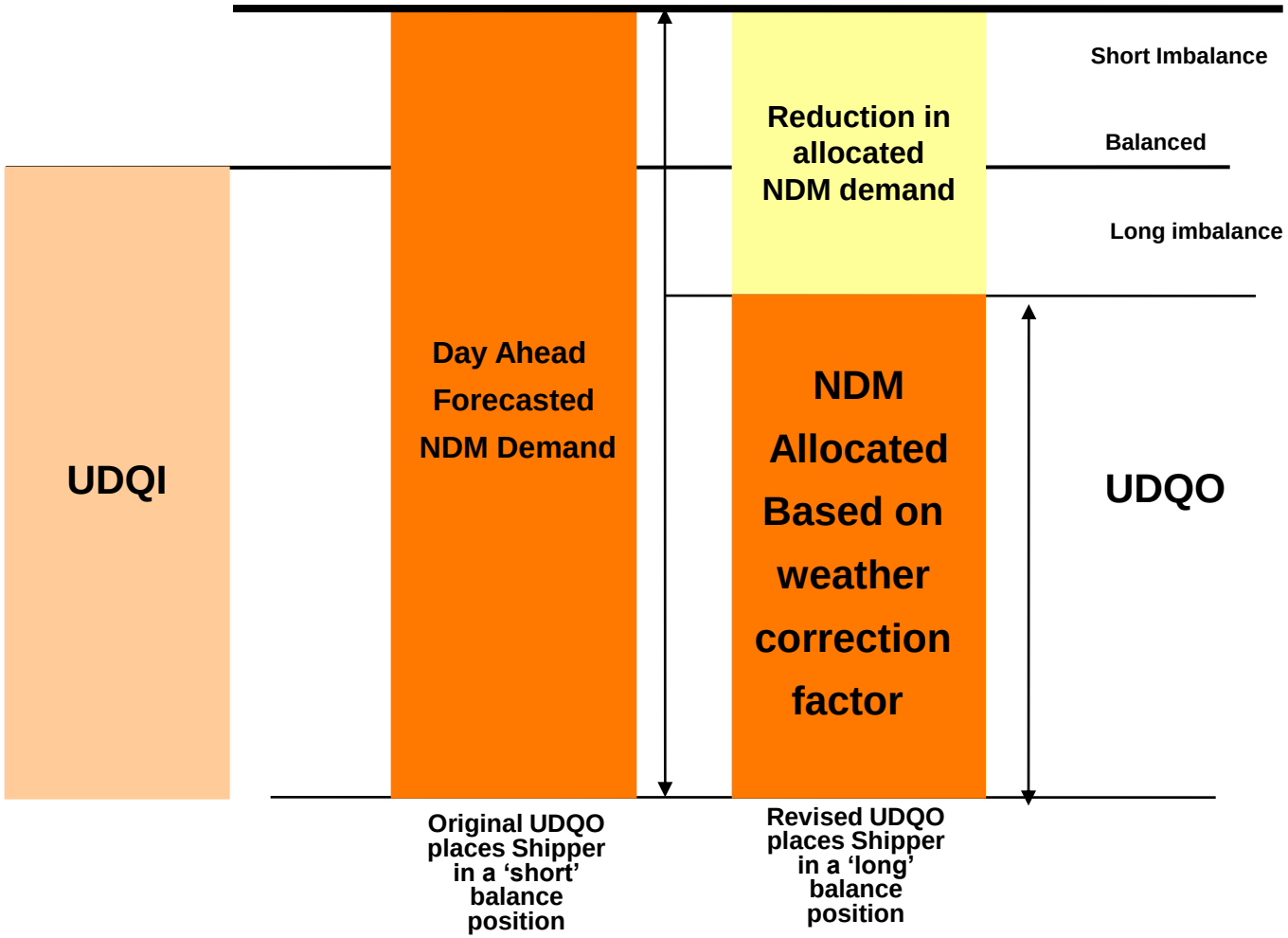
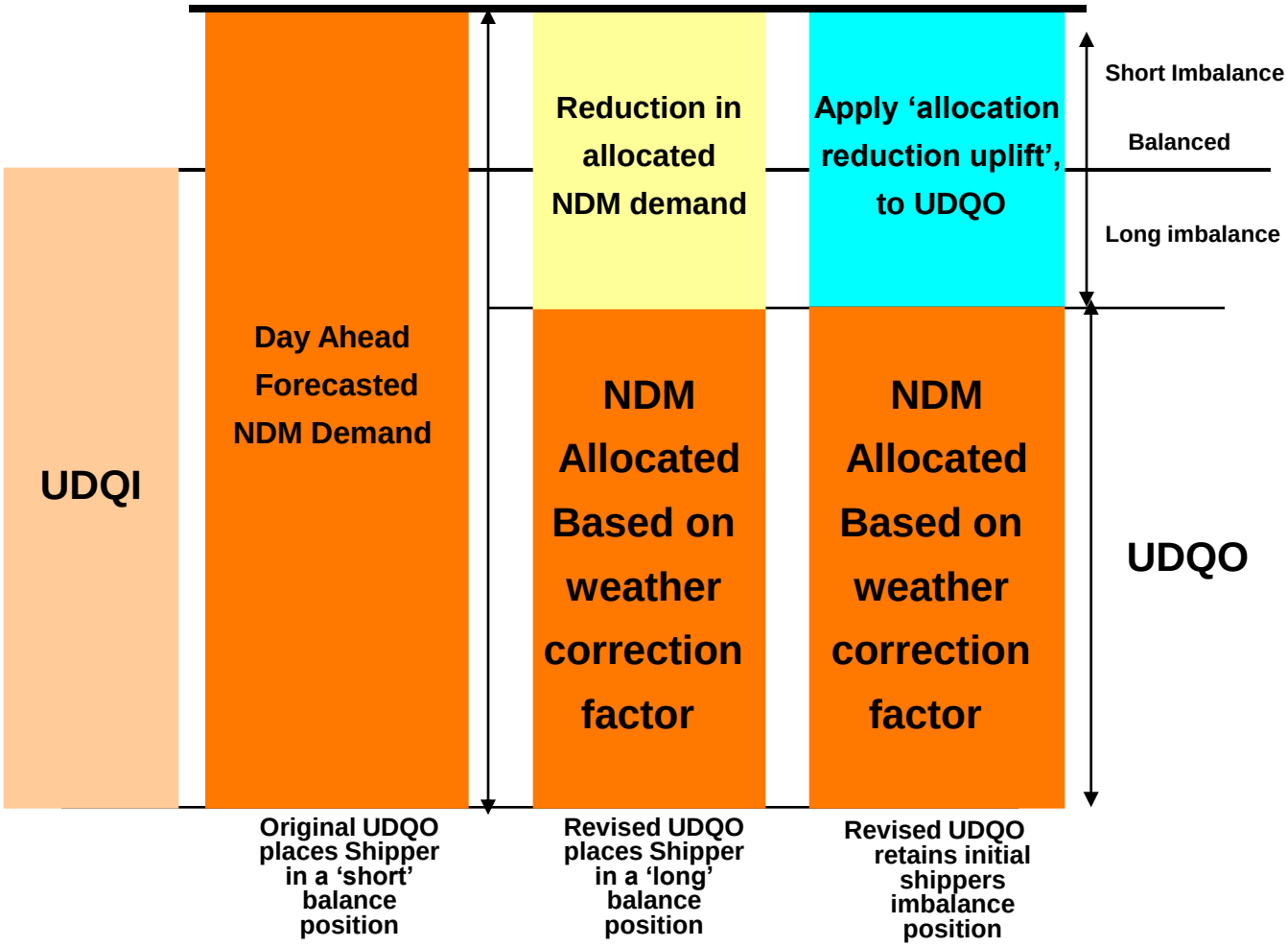


Reference: BR 2.

Market balancing with NDM Curtailment - Proposed Uplift



Uplifting the UDQO by the difference between forecasted and reduced allocation volume will maintain the original balance position. Recompense for the additional volume may be settled through a trade. Thereby there will be no double accounting impact from subsequent meter reconciliation.

NDM uplift

- Aim to reflect a shippers market balance position prior to NDM demand curtailment
- Proposing to implement a NDM ‘uplift’
  - Uplift will reflect the volume of NDM demand reduction allocated to a shipper
  - Uplift will take the form of a trade with the SO (similar to ECQ)
    - Paid at 30 day average SAP

Derivation of DSR NDM Curtailment Volume at Network Isolation

Business Rule 3.

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NDM curtailment volumes

- How are the NDM DSR volumes calculated?
- How are the NDM DSR payments calculated?

NDM curtailment volumes

- Requires calculation to determine change in NDM demand as a result of curtailment
  - Requires a reference point to determine ‘drop’ in demand

NDM Reference Point – End of day NDM demand = NDM curtailment volumes

  - Reference point will need to be some form of forecast NDM demand prior to the start of curtailment

NDM Forecast Information

- Within Day
  - Provision of a NDM forecast which reflects LDZ NDM demand prior to Network Isolation.
- Post event
  - To determine the NDM uplift quantities and DSR NDM Volume.
  - Potential LDZ NDM demand, which would have been offtaken were no NDM demand curtailment enacted.

Reference : BR 3.2 & Appendix A1.4

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Calculation of NDM DSR payments

How should this forecast/estimated NDM usage value be determined ?

Determines the DSR payment ratio

NDM Forecast Demand (pre-network isolation) - NDM actual Allocated on D = Total curtailed volume / Total curtailed SOQ Volume x Individual SOQ = DSR NDM volume

Volume Difference (expect to be close to NDM volume instructed to reduce at LDZ) / Total curtailed NDM SOQ = RATIO x Individual NDM SOQ (curtailed site) = DSR NDM Volume for DSR charges and credits

Note: weather sensitivity will not be taken into account in this calculation.

Example of the how the derivation of NDM DSR payments will be calculated

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Application of ratio to aggregate of curtailed NDM SOQs in 4 LDZs

LDZ	Pre- Network Isolation total NDM demand forecast	Total NDM allocation on D	NDM interrupted volume	Ratio	Total interrupted NDM SOQ volume	NDM DSR Volume
1	100	0	**100**	0.67	150	**100**
2	100	25	**75**	0.75	100	**75**
3	100	75	**25**	0.50	50	**25**
4	100	90	**10**	0.50	20	**10**

Application of ratio to aggregate of curtailed NDM SOQs in LDZ 1

LDZ 1: NDM Volume interrupted
100

	Site 1	site 2	site 3	site 4	Value
SOQ	20	30	50	50	150
Ratio	0.67	0.67	0.67	0.67	
Total NDM DSR Volme	**13**	**20**	**33**	**33**	**100**

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Assumptions

- The NDM volume curtailment should equate to the quantity determined to have been reduced at the LDZ, minus DM, own use gas, reduction resulting from public announcements etc; or
- The difference between the pre-isolation forecast aggregate NDM demand and the aggregate NDM demand allocated on the day should in total equate to the volume of NDM interrupted.
- Methodology for calculating the ratio to apply to each interrupted NDM or EUC group for each shippers;

  the volume of the NDM proportion of the LDZ reduction divided by the total SOQ volume of all curtailed NDM sites in that LDZ; multiplied by

  the SOQ of each NDM site interrupted

  - This should provide a reasonable reflection of the volume each interrupted site would have used on the day.

Issue

- For volumes attributed as part of the allocation process Sites allocated offtake on the day, but curtailed:
  - For all individually read NDM meters (post event monthly/6 monthly/annual) the reconciliation process will eventually recompense the Shipper for the volume attributed as part of the allocation process.
  - RbD sites are not reconciled through meter reads, therefore a shipper with curtailed RbD sites will not receive recompense for volumes attributed as part of the allocation process.
- For Volumes attributed as part of the NDM uplift:
  - For all NDM categories; the shipper will receive payment for the NDM uplift.

Business Rules not yet covered

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Business Rules references

- BR1. GDE Cashout arrangements
- BR 2. NDM Uplift Arrangements
- BR 3. Demand Side Response Fund and Payments
  - 3.1 Calculation of the required DSR fund
  - 3.2 Calculation of DSR fund volume
  - 3.2 DSR payment Calculation
- BR 4. Managing shortfall/surplus of DSR Fund
  - 4.5 (a) DSR fund shortfall targeted cost
- BR 5. Settlement Timescales
  - 5.2 Settlement of DSR payments 5.2
  - 5..8 Shipper default and DSR fund payments
- BR 6. Demand Side reduction End Users curtailment information
- BR 7. Commercial Demand Reduction Contract
- BR 8 Process closeout
- Appendix A Emergency Curtailment Volume Calculation

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BR6 – DSR Information

- This section covers the information required from DNs on the curtailed demand for:
  - Firm load disconnection
  - Network Isolation
- Information is used in the calculation of the DSR fund and DSR payments

BR7 – Commercial DSR

- BR1. GDE Cashout arrangements
- BR 2. NDM Uplift Arrangements
- BR 3. Demand Side Response Fund and Payments
  - 3.1 Calculation of the required DSR fund
  - 3.2 Calculation of DSR fund volume
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BR7 – Commercial DSR

- Section looks at the information requirements shippers need to send to the SO to if they have demand that has a commercial DSR contract
- Also covers how to determine the volume of commercial DSR
- The treatment of commercial DSR is covered in the relevant sections
  - Assumptions – commercial NDM contracts will not be included in the process
  - BR 1.6 & 3.2(b) – no DSR payment for commercial DSR
  - BR 1.7 – commercial DSR volumes will be excluded from the ECQ process

BR8 – Process Closeout

- BR1. GDE Cashout arrangements
- BR 2. NDM Uplift Arrangements
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BR8 – Process Closeout

- Process closeout in line with the current code provisions i.e. 18 months after the invoice due date
  - No additional information, payments to consumers or recovery of money from shippers will occur post close out
  - Aim is to not interact with the recovery of money due to default

Summary

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Summary

- Business rules looking at the ‘how’ to implement Ofgem’s proposal
  - Focusing on the UNC
- Considered the main issues raised at previous workshops

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Overview of Issues Addressed

- GDE dynamic cashout (BR 1.)
- Neutrality cash flows (BR 1.3)
- Shortfall of funds for DSR payment (BR 4.)
- Payment timescales (BR 5.)
- Impact of NDM curtailment on imbalance positions (BR 2.)
- Derivation of DSR NDM Curtailment Volume at Network Isolation (BR3.)
- Treatment of commercial DSR contracts (BR 7.)

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Summary

- Business Rules broadly complete
  - Majority of issues addressed
- Minor issues outstanding
  - Finalise the appropriate NDM forecast derivation on the GDE day and post event
  - Clarify rules on neutrality cash flows
  - DSR payment to defaulted shippers
- Next steps
  - Finalise Business Rules in line with latest proposal
  - Should Ofgem decide to proceed with the SCR and use the Energy Act 2011 powers, develop UNC draft legal text

Summary of Business Rules

22 June 2012

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- BR 2. NDM Uplift Arrangements
- BR 3. Demand Side Response Fund and Payments
  - 3.1 Calculation of the required DSR fund
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The End

Business Rules

End



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Slides not used

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Market balancing with NDM Demand Interruption

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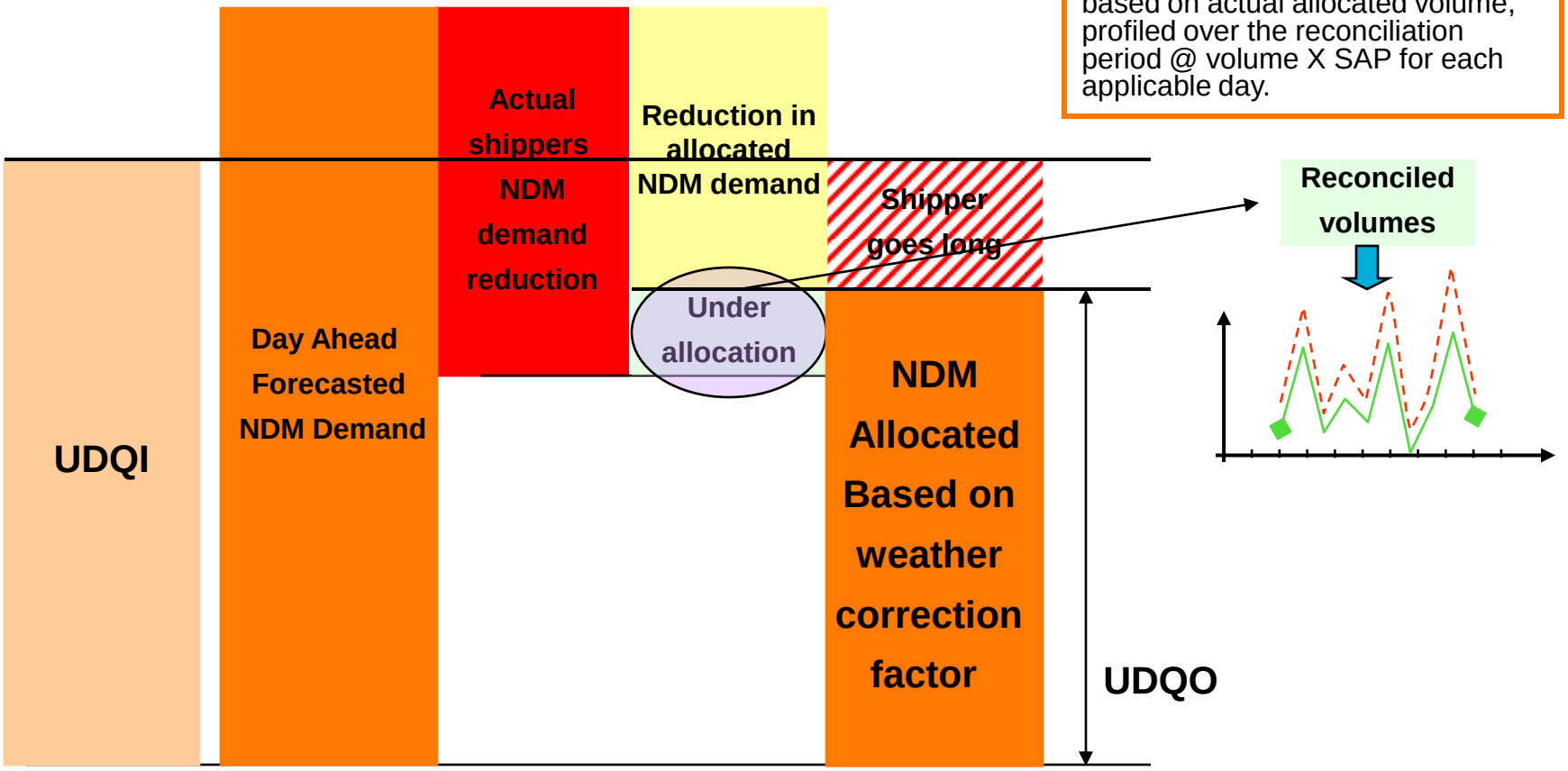
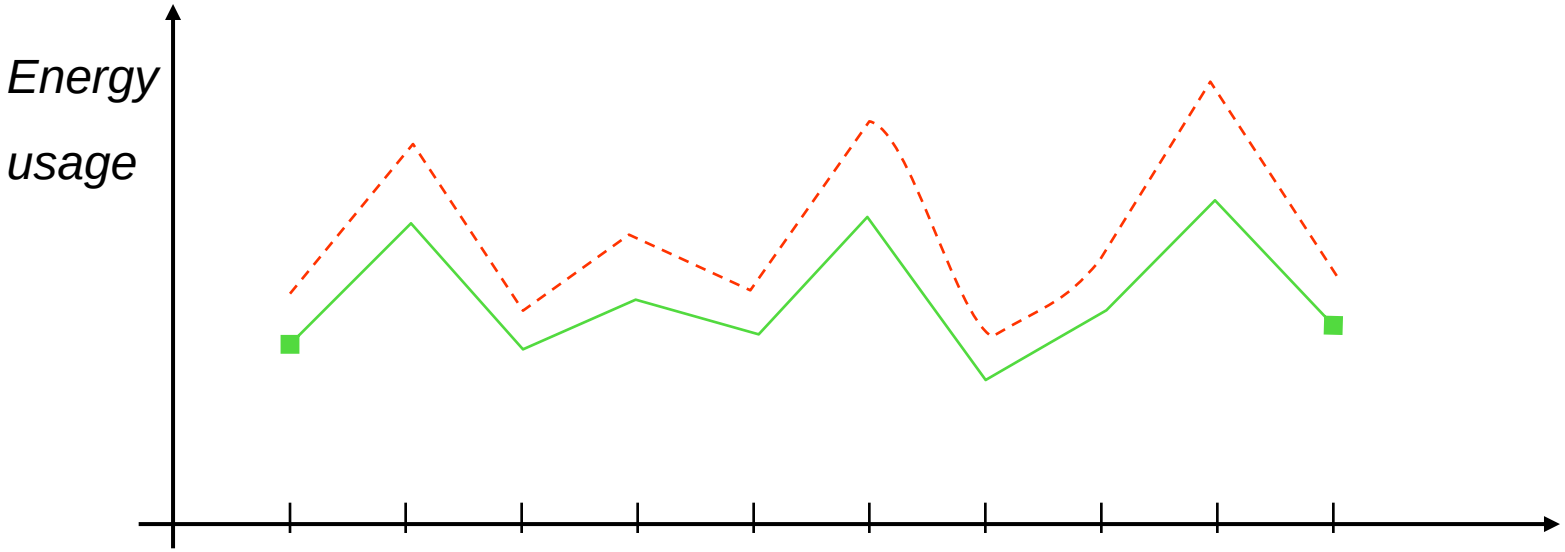
Through Reconciliation, non-RBD NDMs recompensed for isolated volumes. Reconciled Volume is based on actual allocated volume, profiled over the reconciliation period @ volume X SAP for each applicable day.



NDM Reconciliation: Apportionment of Actual Energy for a Period



- Use of factors apportions energy in same daily “shape” as original allocation
- More Rec energy on higher allocation days
- Factors are specific to LDZ and End User Category

- *Actual reads*
- *Original Allocation*
- *Reconciliation Energy*

Treatment of Reconciliation Energy

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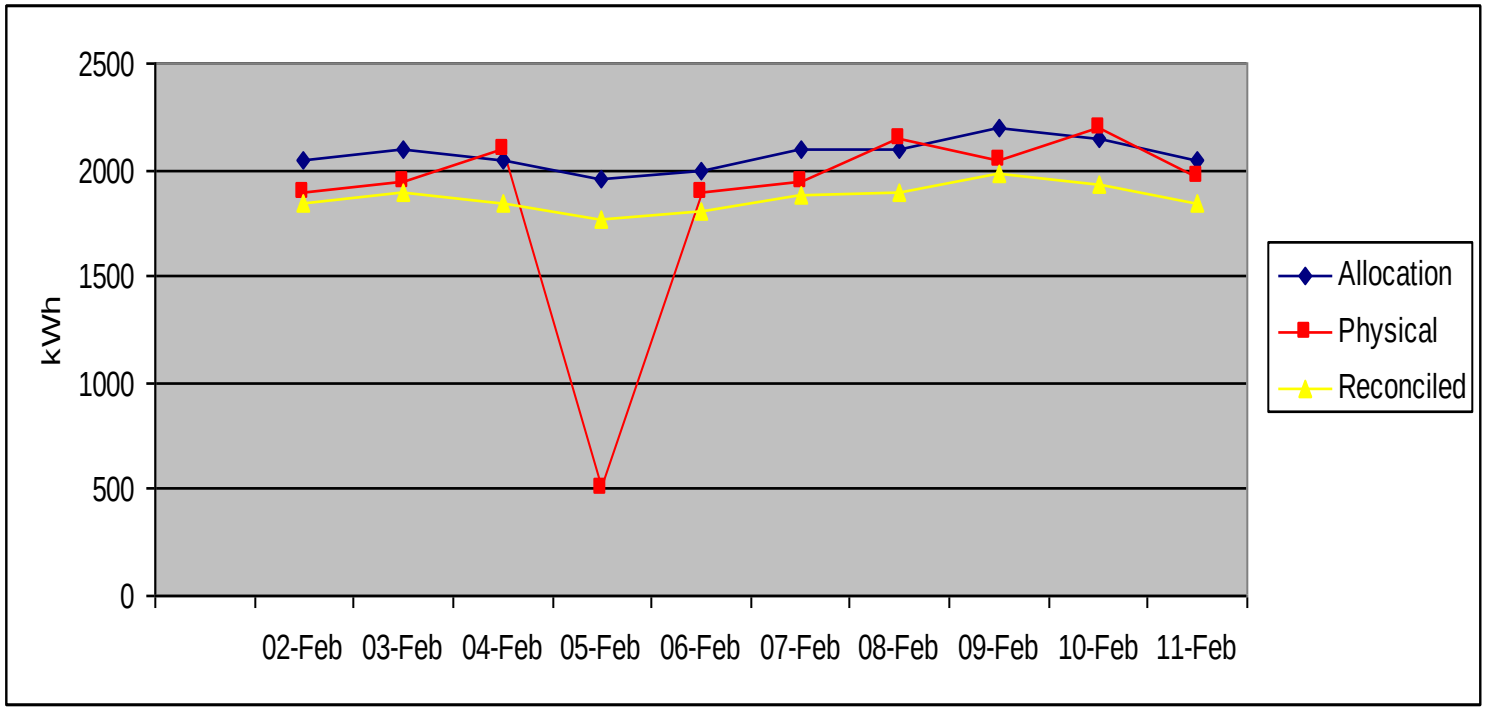
- Higher allocation days receive higher reconciliation energy
- Achieved through use of Reconciliation Factor and LPA Factors

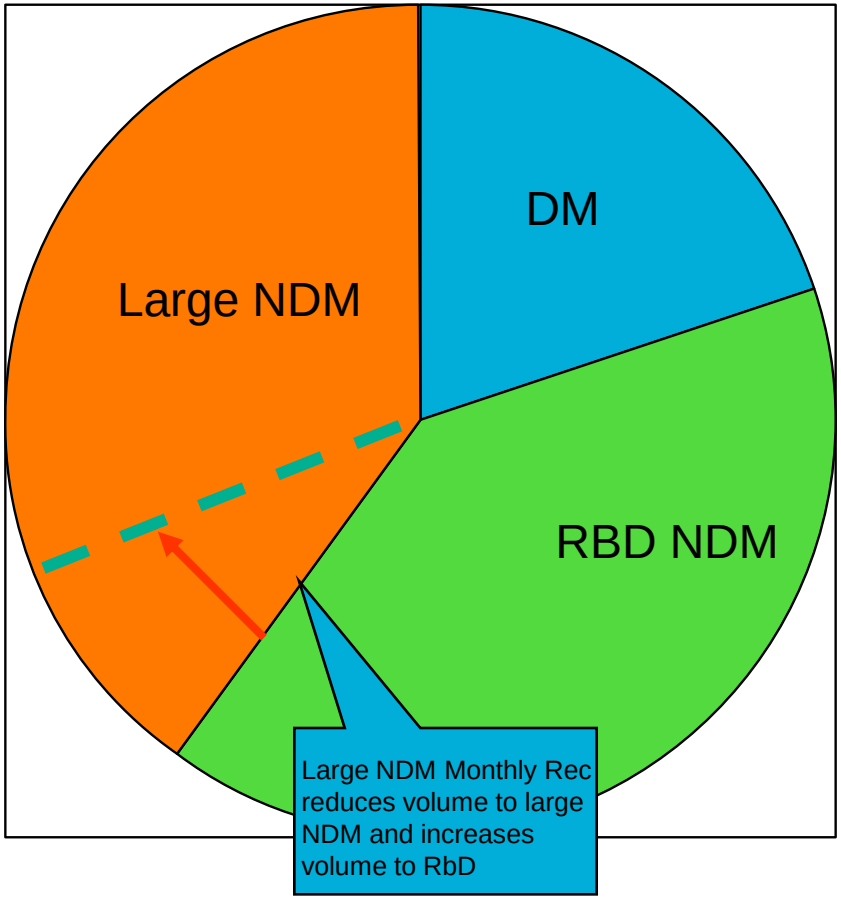
RECONCILED QUANTITY = 40
ORIGINAL QUANTITY = 200
DAILY RECONCILED QUANTITY =
40/200 * ORIGINAL DAILY QUANTITY
RECONCILED FACTOR = 0.2

NDM Reconciliation Process



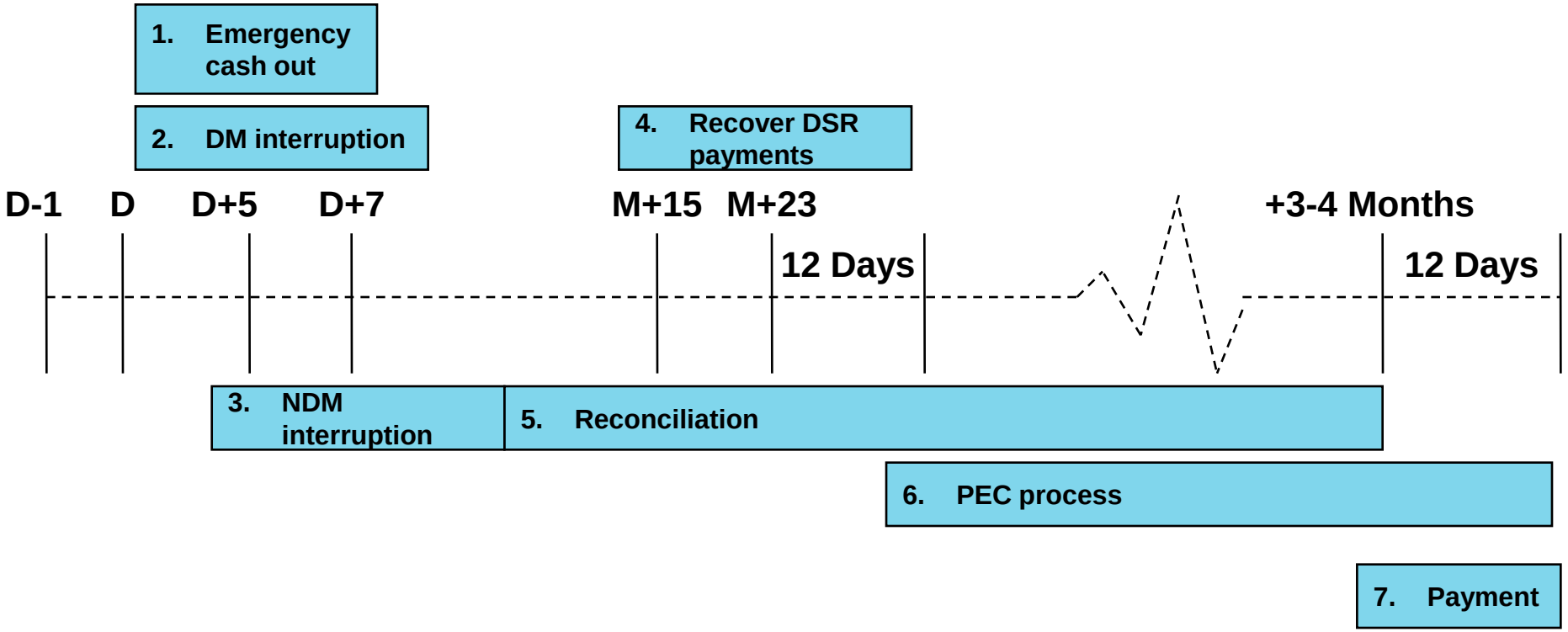
What Effect of large NDM Reconciliation on RBD NDMs

Won't change market position on the day, but leaves RBD shippers with increased cost for energy, with a proportion of the volume being applied at the GDE day price.

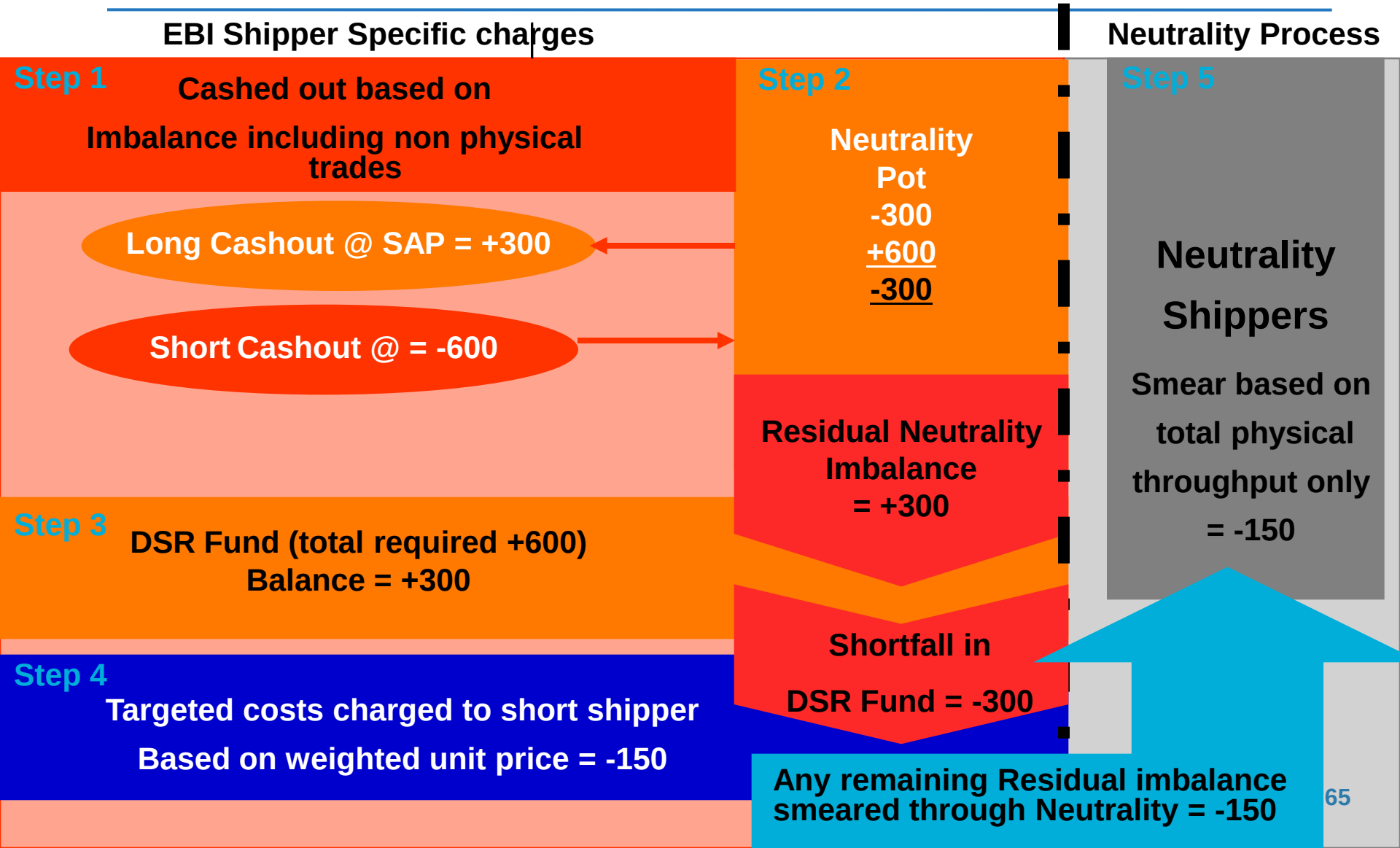


Settled at SAP for each day of the rec period

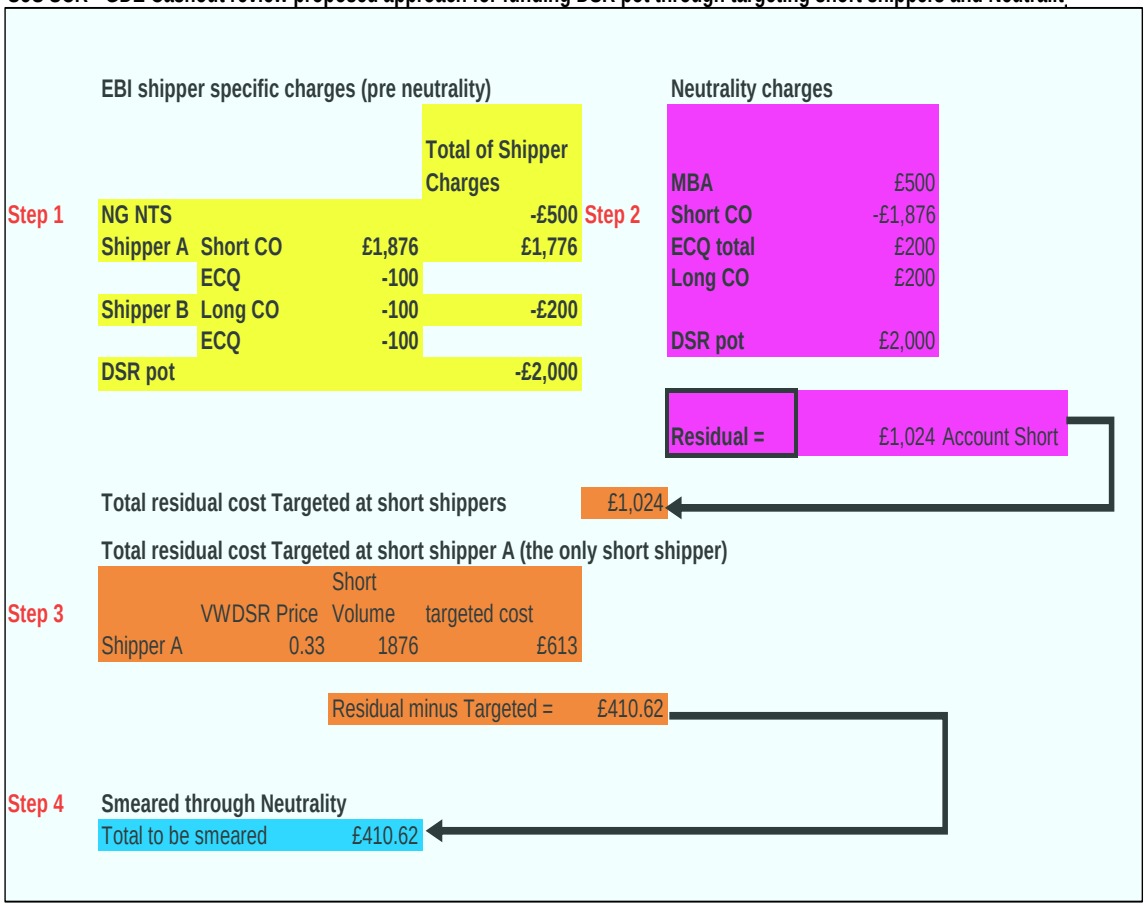
New Process Timescales



Netting off Charges (not including DSR)



SoS SCR - GDE Cashout review proposed approach for funding DSR pot through targeting short shippers and Neutrality



DSR Volume for targeted costs calculation

	Volume in KWH	x .67 (VoLL)
DSR Volume	2985	£2,000

VWDSR Price	0.326961

Shipper A volume short

volume short	x .67 (VoLL)
2800	£1,876

Neutrality – Proposed Development