

# Explaining how long and short imbalances work with application of Option A Gas Day algorithm

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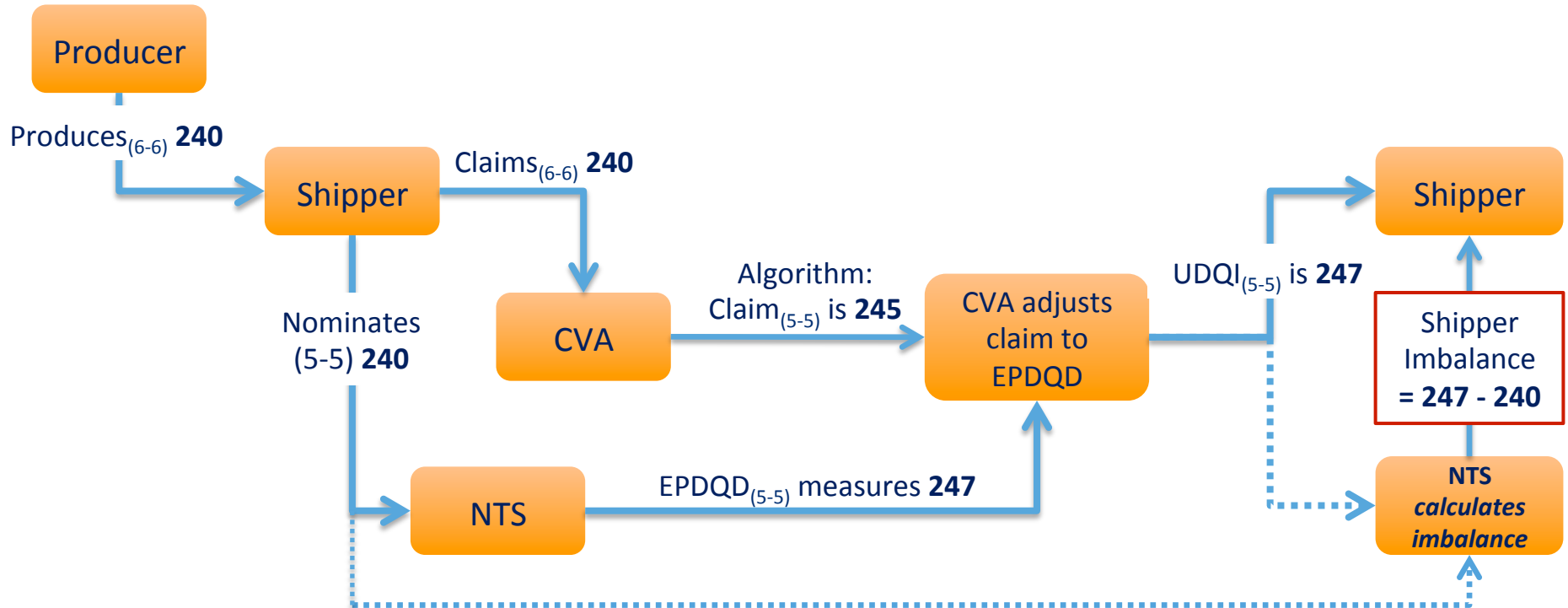
## Example of a short and a long imbalance Using Gas Day 3

	Gas Day 1	Gas Day 2	Gas Day 3
Allocation	240	360	240
Algorithm value (1/24)	10	15	10
5-5 Value		355	245
Nomination	240	360	240
Imbalance		- 5	+ 5

## Example for Day 3 (plus real imbalance)

In this scenario, shipper claimed **360** on Day 2 and claimed (and nominated) **240** on Day 3; and NGG NTS measured **247**.

5-5 claim is converted to **245**, meaning the real physical imbalance is **2** and the synthetic imbalance is **5**

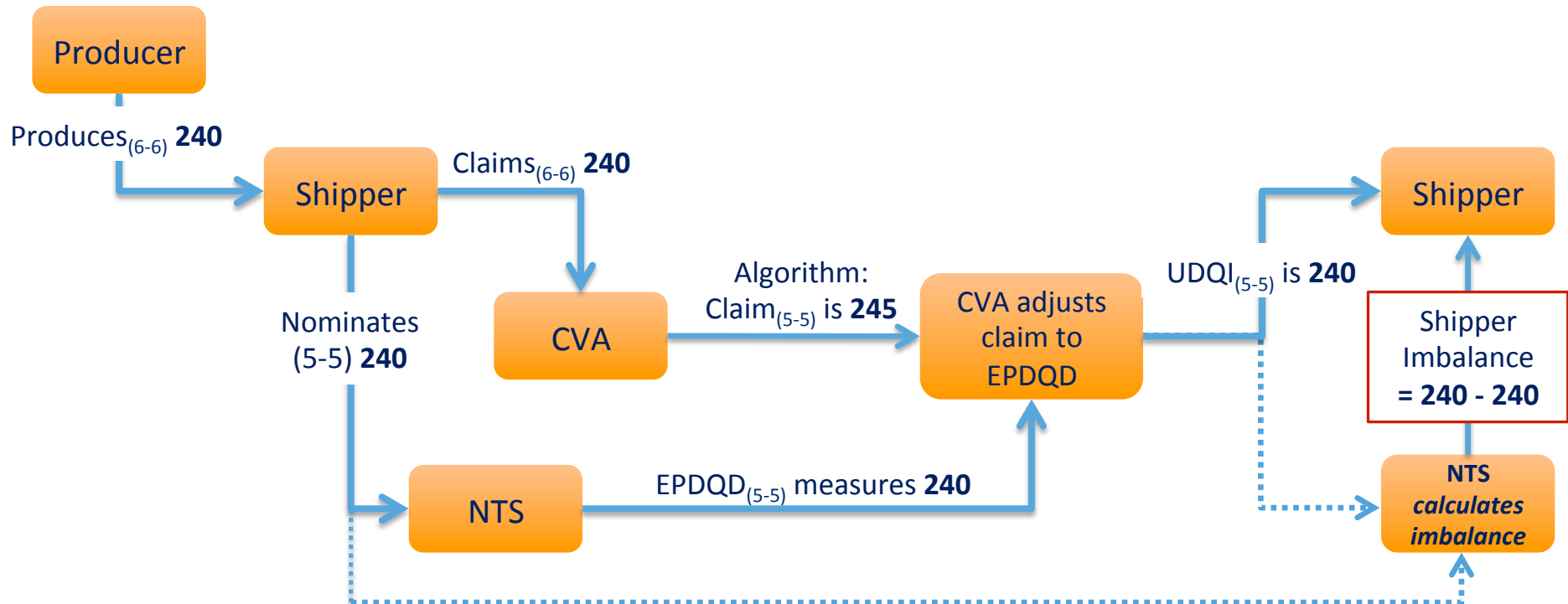


	Formula	Calculation
[1] Imbalance	$UDQI_{(5-5)} - nomination_{(5-5)}$	$247 - 240 = 7$ (shipper long)
[2] Synthetic Imbalance	$UDQI_{(5-5)} - UDQI_{(6-6)}$	$245 - 240 = 5$ (long Time Shift)
[3] Real Imbalance	$[1] - [2]$	$7 - 5 = 2$

## Example for Day 3 (but shipper guesses right)

In this scenario, shipper claimed 360 on Day 2 and claimed (and nominated) 240 on Day 3; and NGG NTS measured 240 → **Imbalance is 0**

NGG is unable to use balancing incentives on shipper because nomination is actually right!



	Formula	Calculation
[1] Imbalance	$UDQI_{(5-5)} - nomination_{(5-5)}$	$240 - 240 = 0$ (shipper in balance)
[2] Synthetic Imbalance	$UDQI_{(5-5)} - UDQI_{(6-6)}$	$245 - 240 = 5$ (long Time Shift)
[3] Real Imbalance	$[1] - [2]$	$0 - 5 = -5$

# Conclusion

- Time Shift Mismatches are an inefficiency to both shippers AND National Grid
- 1<sup>st</sup> example shows that formula can separate real imbalances from Synthetic Imbalances
- 2<sup>nd</sup> example shows that NGG cannot apply balancing charges based on real physical imbalances to the system.
  - Allowing for shippers to pay for real imbalances only, would mean shippers cannot benefit from Synthetic Imbalances, as they would in the 2<sup>nd</sup> example