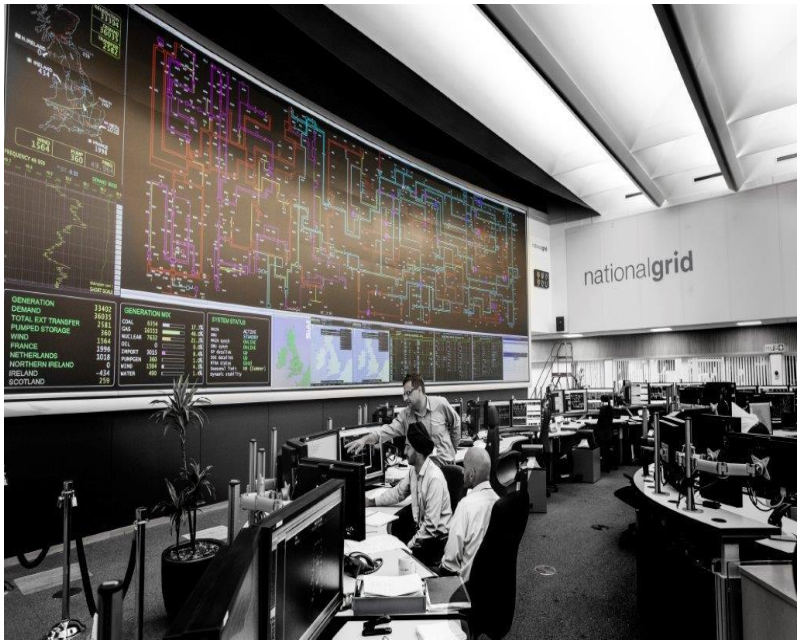
Notification of Insufficient System Margin (NISM) Overview

Brendan Lyons
Prince Rusike
Electricity National Control Centre

NISM overview

NISM – what it is, what it is not and why National Grid may issue a NISM?



- Notification of Inadequate System Margin
- History of summer and winter NISMs
- Control room strategy during a NISM
- Overview of May 09 NISM and how the market responded

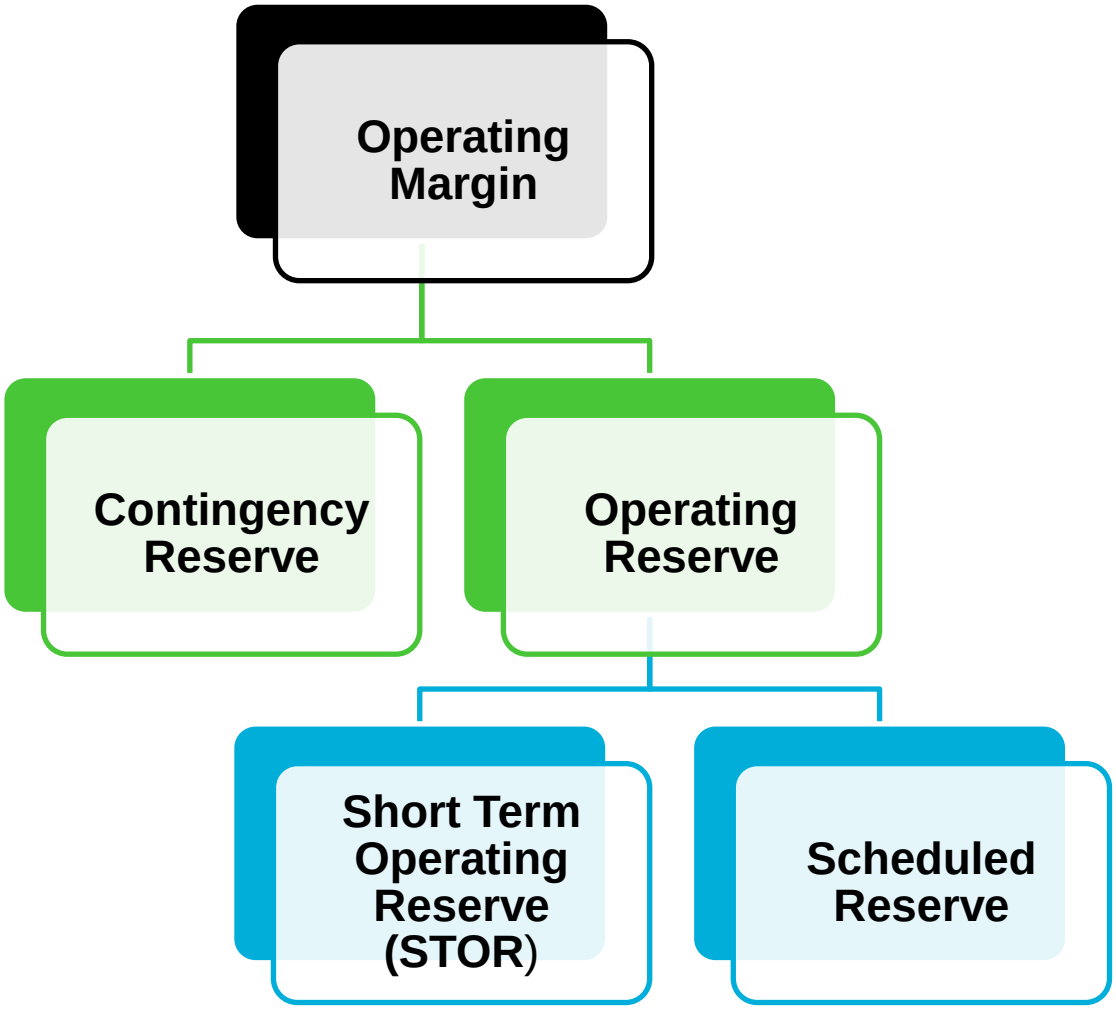
NISM overview

What is a NISM?

- A NISM is a notice issued to the market by National Grid to request extra generation
- This notice is issued as part of our standard toolkit for balancing supply and demand
- It is not demand control

nationalgrid

NISM overview

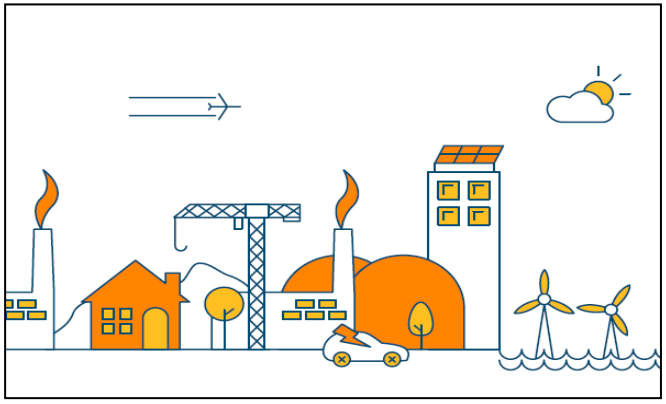


NISM overview

Differences between Summer and Winter NISMs

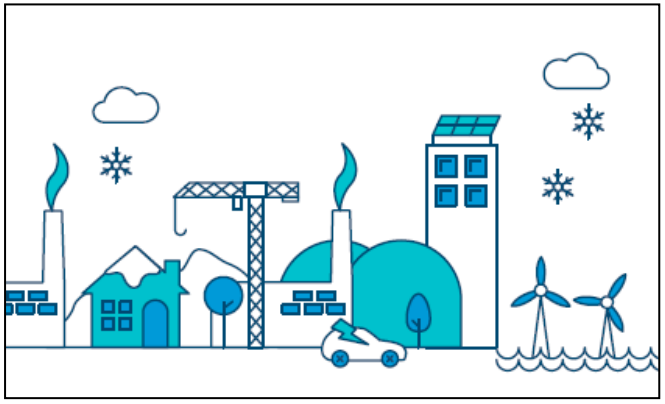
Summer

- More generation outages
- More network outages
- Lower transmission limits
- More demand peaks (2B, 3C, 4B)



Winter

- Weather
  - Cold - Plant reliability
  - Weather fronts
- Higher transmission flows
- Higher demand peak (E.g. DP)



nationalgrid

NISM overview

Summer NISM breakdown

	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
2016		1						1
2015								
2014								
2013								
2012								
2011								
2010								
2009								
2008			1		1	3		5
2007							1	1
2006				4				4
2005			1				1	2
2004							3	3
No. of Summer NISM	0	1	2	4	1	3	5	16

nationalgrid

NISM overview

Winter NISM breakdown

	Nov	Dec	Jan	Feb	Mar	Total
2016						
2015	1					**1**
2014						
2013						
2012				1		**1**
2011						
2010						
2009			1			**1**
2008	1	1			1	**3**
2007	3					**3**
2006					1	**1**
2005	2	1		2	2	**7**
2004						
No. of NISM	**6**	**2**	**1**	**3**	**4**	**17**

nationalgrid

NISM overview

Focus of control room operations during a NISM day

- Demand prediction
- Margin & transmission analysis
- Monitoring of plant
- Assessing the requirement for further action
- Communication & reporting

NISM 09 May 2016

Summary

- At 18:55, a NISM was issued detailing a shortfall of 1500MW from the required system margin over the period 19:00 – 21:30, covering the extended evening peak.
- Throughout the day there were a number of generation losses that tightened the margin position which resulted in significant erosion of reserves by 18:00.
- Shortfall was recovered and NISM cancelled at 21:15.

NISM 09 May 2016

Events leading up to the NISM

	BMU	declared MEL (MW)	time of drop	Sum (MW)
Morning	BMU-1	240	06:19	1996
	BMU-2	692	05:45	
	BMU-3	734	09:00	
	BMU-4	330	10:42	
Afternoon	BMU-5	488	12:54	1488
	BMU-6	1000	17:15	

Wind power generation was short by 700MW against the forecast.

NISM 09 May 2016

Market Response

- The market response to the NISM was in line with expectations:
    - Higher levels of reliability running across the extended peak to 21:00, with no further losses.
    - Additional generation made available as a result of the system warning.

nationalgrid

NISM 09 May 2016

BMU	MW position at 16:49	MW position at 20:36	Difference in MW
BMU-1	0	40	40
BMU-2	0	120	120
BMU-3	0	300	300
BMU-4	0	300	300
BMU-5	0	300	300
BMU-6	0	150	150
BMU-7	329	630	301
BMU-8	350	722	372
BMU-9	513	414	-99
BMU-10	220	100	-120
Total MWs recovered between 16:49 and 20:36			1664 MW

The highest demand between 19:00 and 21:00 was 33.76GW and was approximately 600MW less than forecasted.

NISM overview

Key Messages

- A NISM is a notice issued to the market by National Grid to request extra generation – it is not Demand Control
- Historically the number of NISMs issued is similar in Summer & Winter
- 09 May NISM worked as expected with a good Market Response

Q&A

brendan.lyons@nationalgrid.com

prince.rusike@nationalgrid.com