An interesting day……

Wednesday 10th March 2004

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Operations & Trading

Outline of Presentation

To provide an overview of the circumstances leading to the issue of a Notification of Inadequate System Margin (NISM) on March 10th 2004

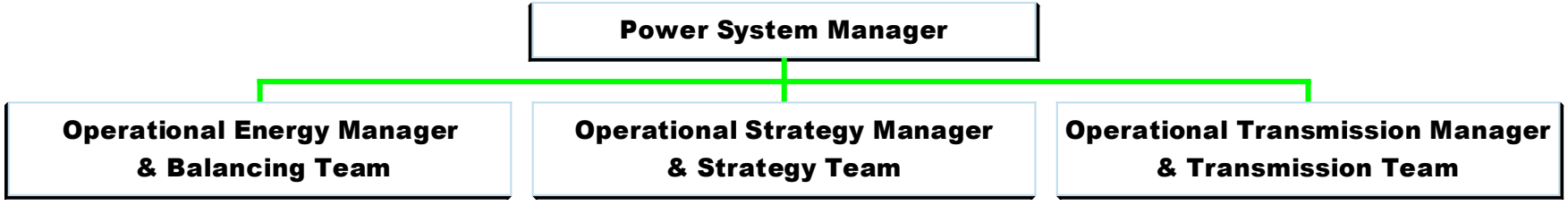
Including:-

- A summary of the techniques we adopt to analyse the plant margin within System Control
- An overview of the plant position for Darkness Peak on March 10th from the Day Ahead through to Real Time.
- An indication of the purpose behind the issue of a NISM
- How it turned out at Darkness Peak on March 10th

Setting the Scene - Wednesday 10th March 2004

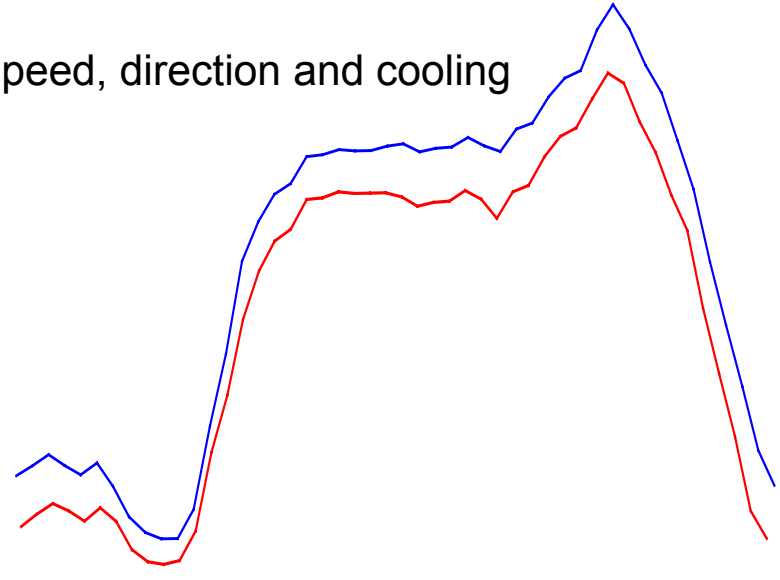
- Darkness Peak expected at 1840 hours
- Weather cool but not freezing
- Expected temperatures 4 - 5 ^{o}C
- Some wintry showers across the country and snow in the North East

Control Room Structure



How do we analyse plant margins within Strategy Team timescales?

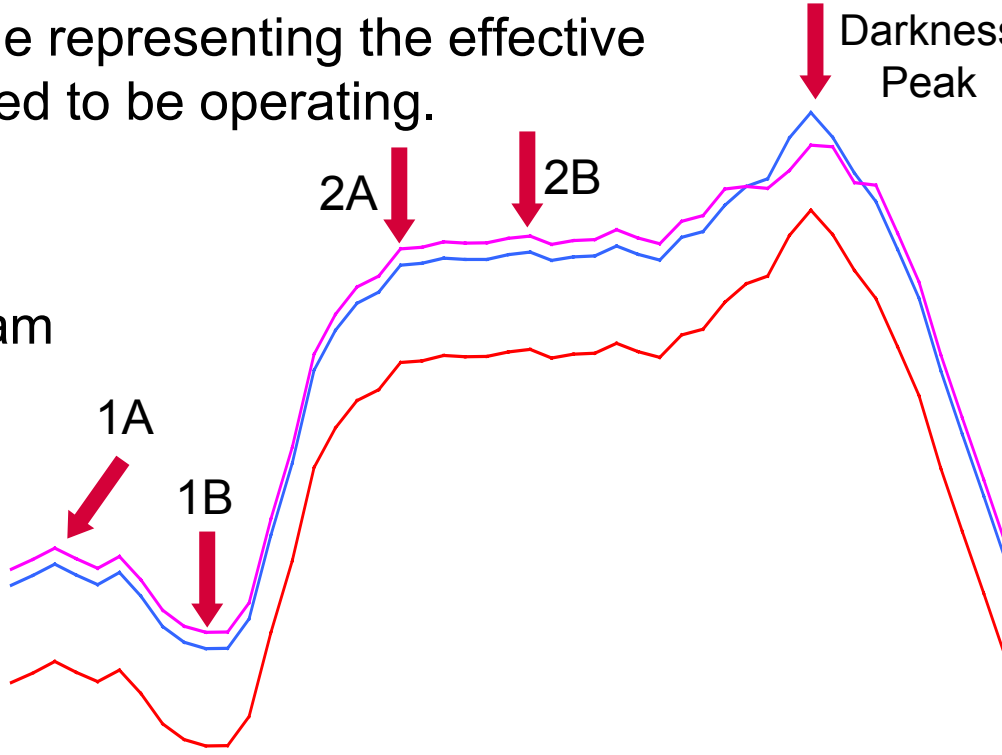
- Operational Strategy Team - From Day Ahead down to 4 hours ahead of Real Time
- Estimate the demand, taking account of :-
  - day of the week, month
  - weather:- temperature, illumination, wind speed, direction and cooling power, precipitation
  - Notified Customer Demand Management
  - Any special events eg. 2 minute silence



- Calculate Reserve Requirements
  - Reserve for Frequency Response
  - Regulating Reserve
  - Contingency Reserve
- The sum of Demand plus Reserve determines our System Requirement

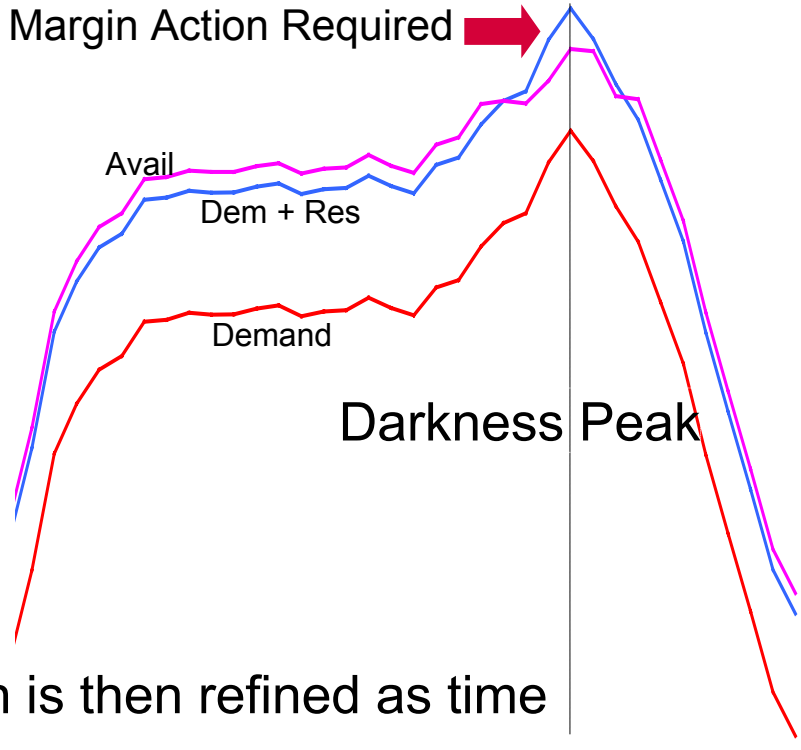
How do we analyse plant margins ?

- Already have a System Requirement & must compare the submitted BMU availability with that System requirement. How?
- We derive a time varying profile representing the effective availability of all BMUs expected to be operating.
- Study each peak and trough, preparing an Operating Program for each

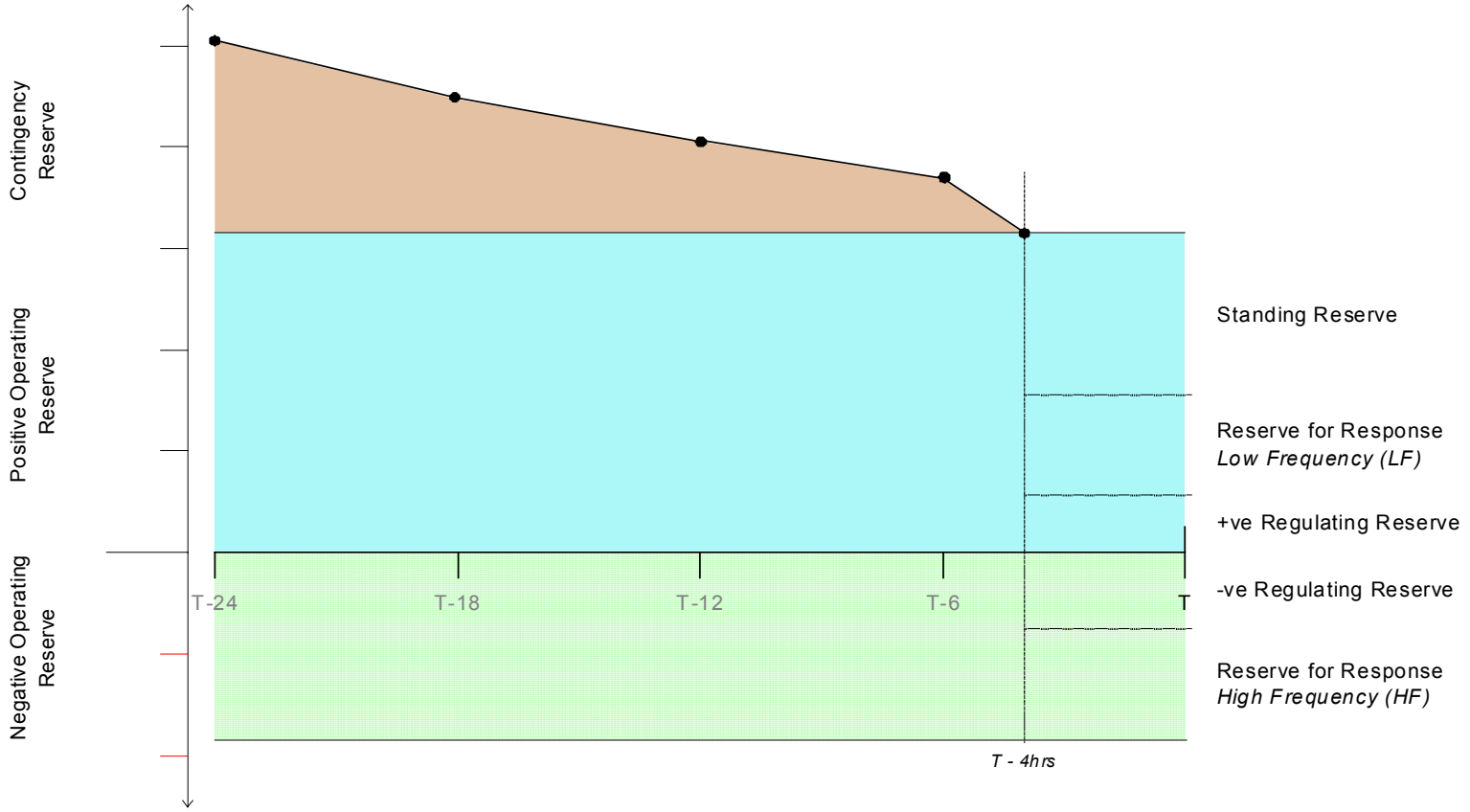


Cardinal Point Operating Programs - a slice in time

- Detailed analysis of each cardinal point & incorporating all the latest submitted data
- For the selected Cardinal Point the following are identified-
  - Demand Estimate
  - Reserve requirements
  - Availability of operating BMUs
  - Resulting System Margin
  - Transmission Security Requirements
  - Any Additional BMUs requirements (or Two Shift options)
- A “snapshot” plan for a future time which is then refined as time passes and circumstances change.



Reserve Requirements Over Time



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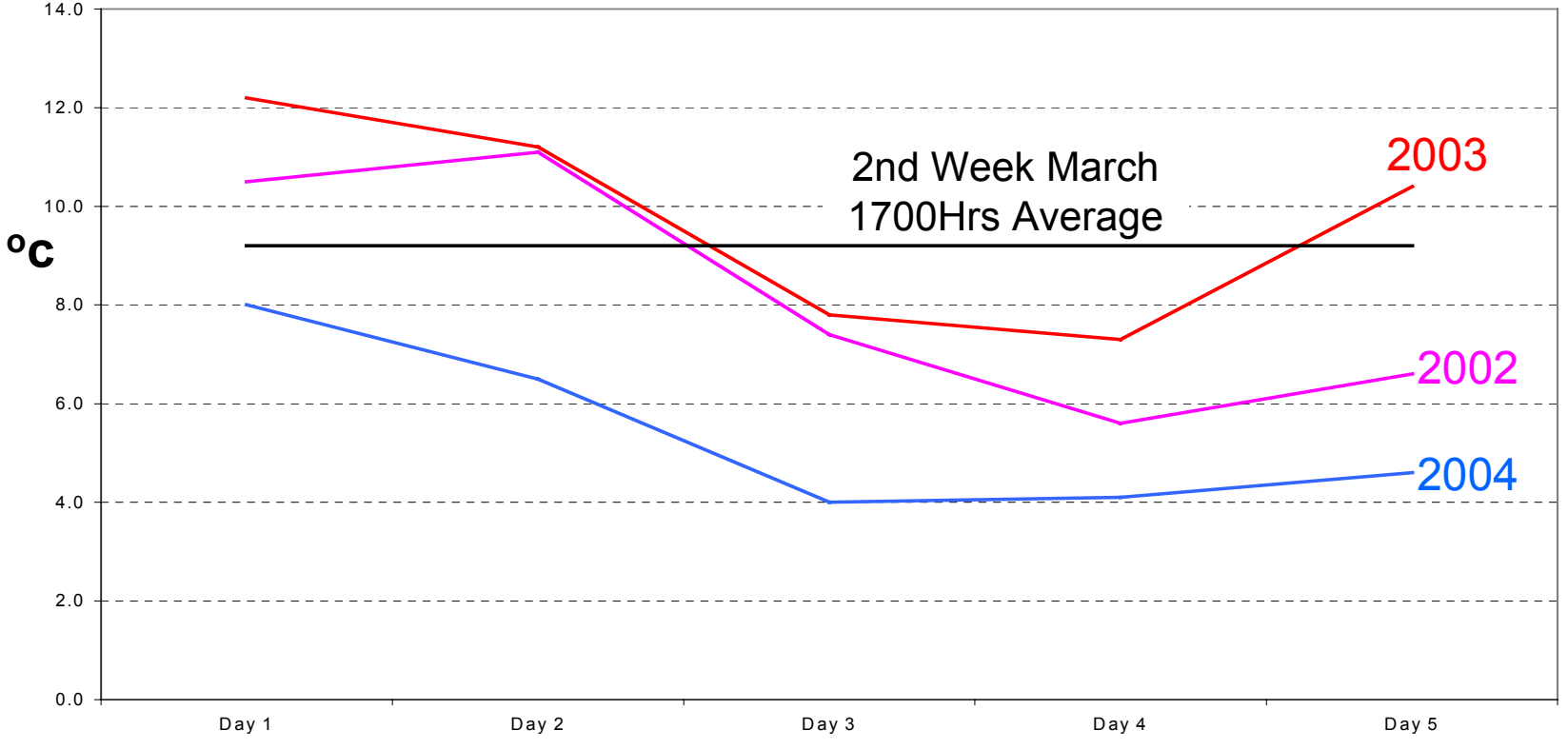
Wednesday March 10th 2004 Darkness Peak - How it looked from the Day Ahead

Weather - "*The **10th** is expected to begin with rain and wintry showers across parts of E England and largely clear skies elsewhere. Falls generally slight; however, showers of sleet and snow later*"

- Weather cool but not freezing
- expected temperatures 4 - 5 ^{o}C
- some wintry showers across the country and snow in the North East

How do these temperatures compare with previous years ?

How did it look at the Day Ahead?
- Temperatures



Second Week in March (1700Hrs T_0)

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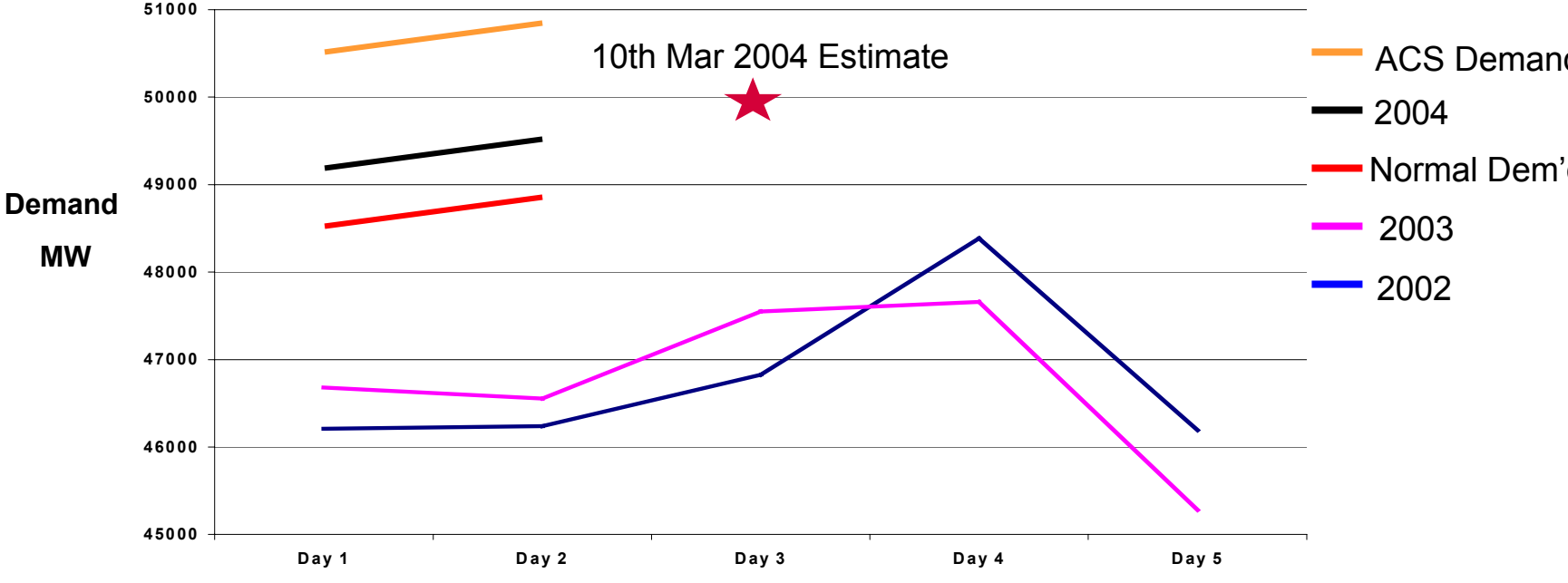
How it looked at the Day Ahead - Demand

- Demand Estimate 50000MW
  - High, reflecting cold weather but not exceptional

Maximum Metered Demands

08/12/03 1730Hrs = 52965 MW

10/12/02 1730Hrs = 54430 MW



Second Week In March "Darkness Peak"

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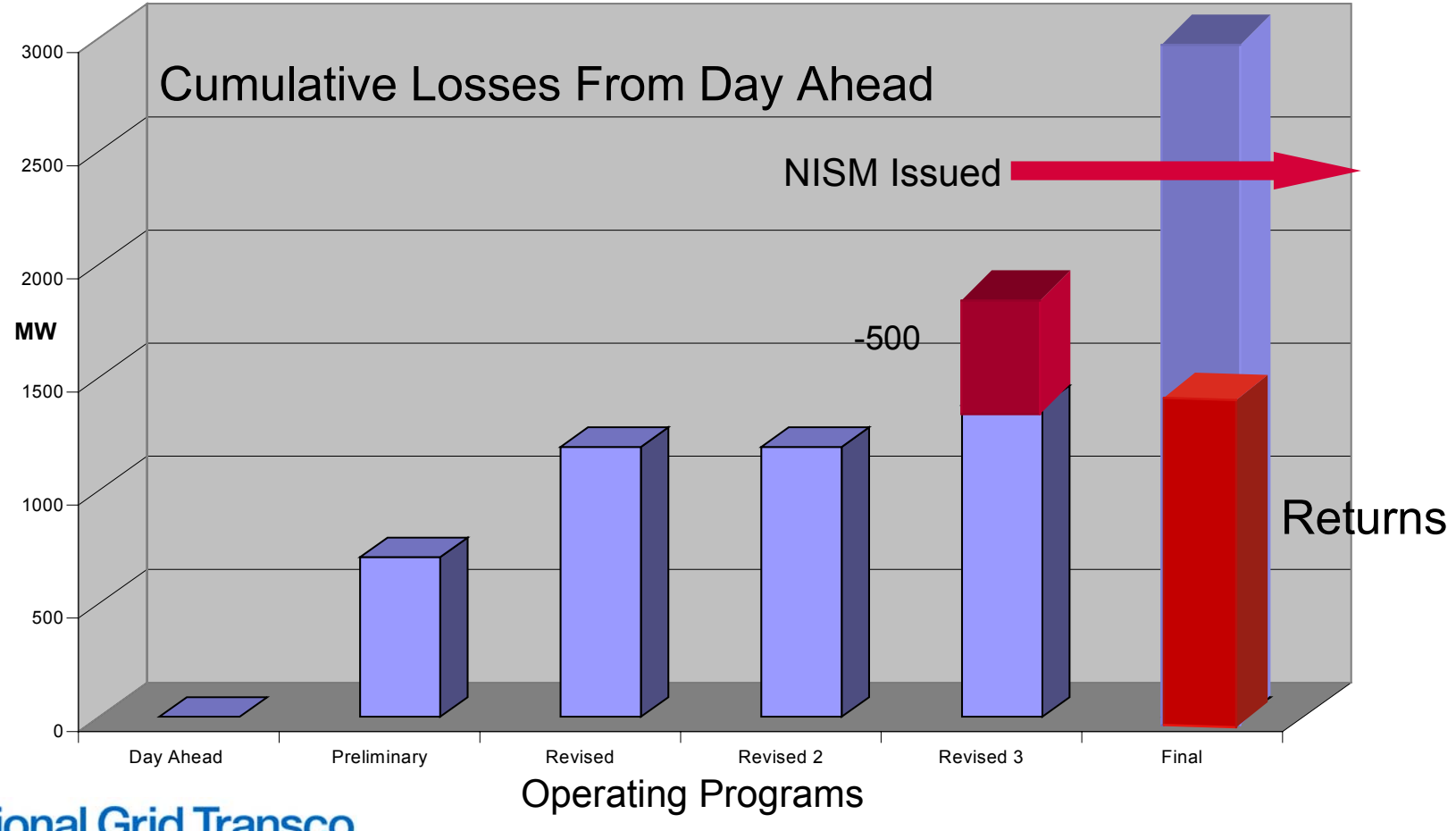
Wednesday March 10th 2004 Darkness Peak - How it looked from the Day Ahead.

- Darkness Peak expected at 1840 hours.
- Darkness Peak demand estimate 50000MW
- Day Ahead Operating Program identified 3 additional BMUs required to run to satisfy Scheduled Reserve
- Contingency - very slight shortfall at the Day Ahead stage
- Further programs prepared reviewing the Darkness Peak position:-
  - Preliminary 2000hrs 9/3
  - Revised 0200hrs 10/3
  - Revised2 0530hrs 10/3
  - Revised3 0930hrs 10/3
  - Final 1230hrs 10/3

How did the situation progress ?

Progression Through Operating Programs



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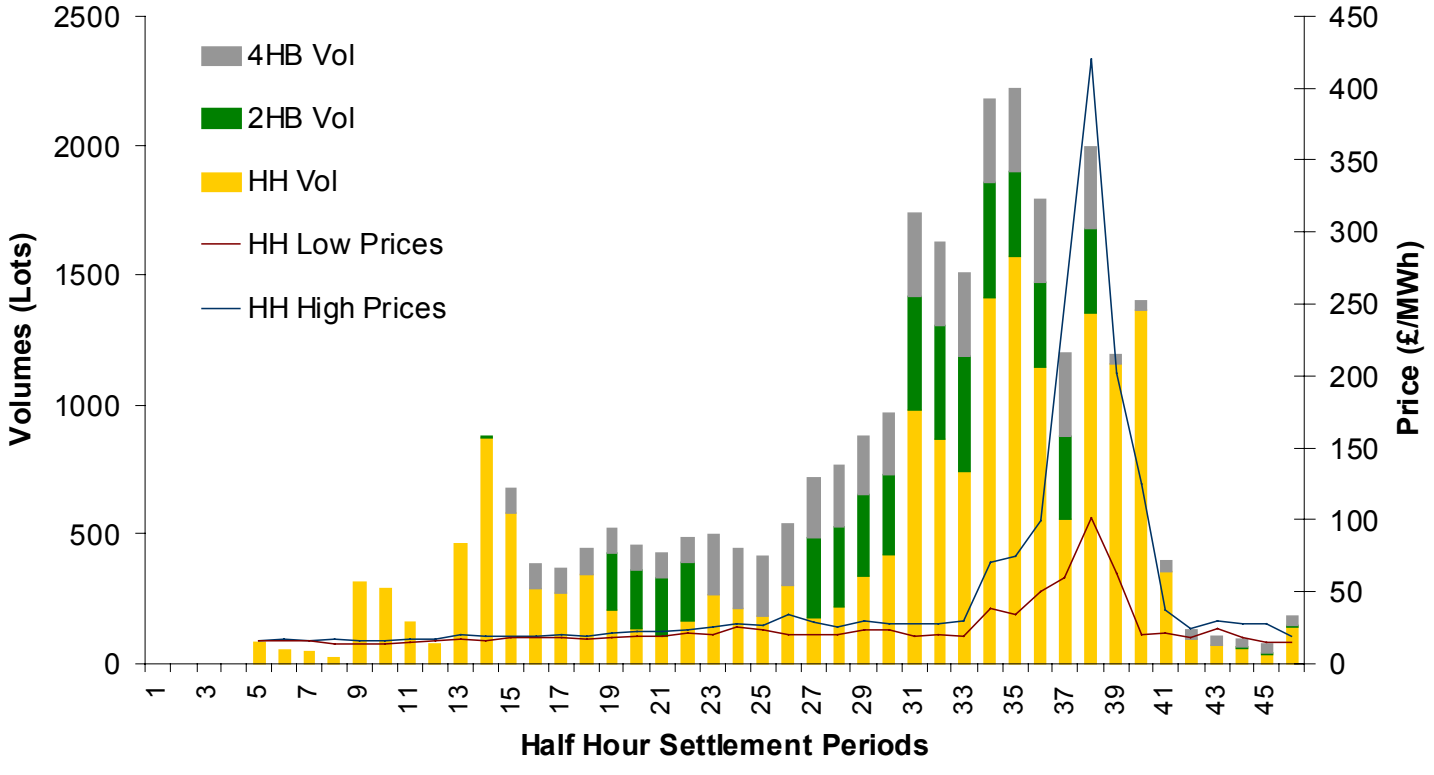
Purpose of NISMs

- To make Participants aware that there is insufficient system margin.

- To prompt all Participants to review BMU data and encourage more plant to be traded within the market or made available in the BM.
- To prompt Suppliers to consider further Customer Demand Management actions and notifications.
- To provide a preliminary warning to Network Operators and Non Embedded Customers that Demand Reduction may be required .

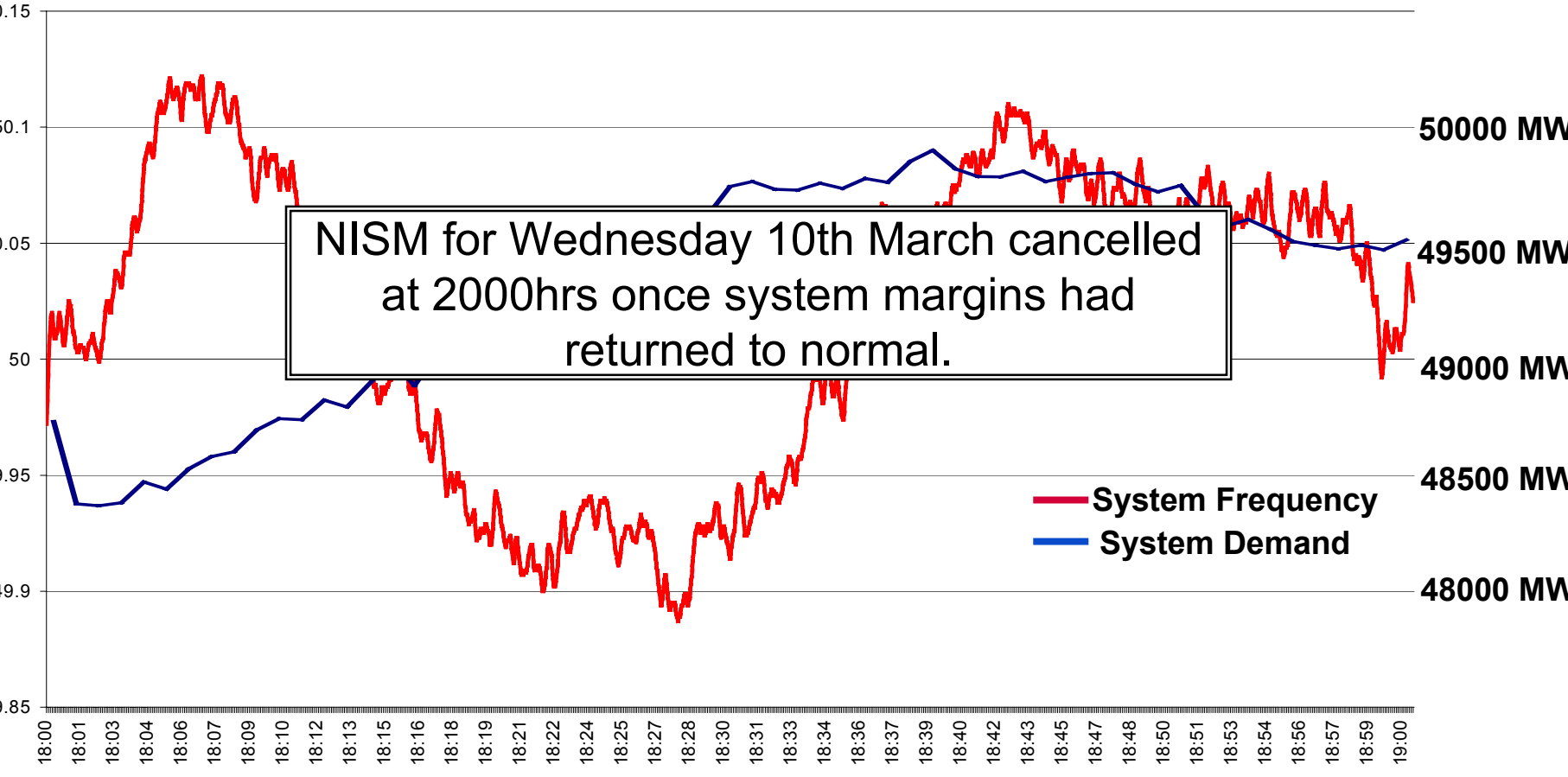
Market Response to NISM



How did it turn out?

- Various participants achieved a DP availability higher than that notified at the time of NISM issue (reflecting a market response which is welcomed by NGT).
- 228MW of additional output secured via Pre-Gate Balancing Mechanism Unit Transaction (PGBT)
- Export on the Anglo-French Interconnector reduced by 500MW
- 6 BMUs with a combined output of 2500MW were operated by NGT as additional units via the BM
- 200MW of Standing Reserve instructed over the peak
- Actual Metered DP Demand outturned at 49770MW : 230MW below the 50000MW estimate
- System operated in accordance the requirements of the Security & Quality of Supply Standards throughout the period NISM in force

How did it turn out?



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