

Review of SONI Power System Operations

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Real Time

Presentation Structure

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 - NI Summary
 - NI fuel mix
 - Gas as a percentage of System demand
 - Wind Statistics
 - Wind as a percentage of system demand
- System operation issues
 - Moyle flow
 - Moyle flows too low
 - Moyle flows too high
 - Moyle flows in future
- Winter Outlook for 2009/10

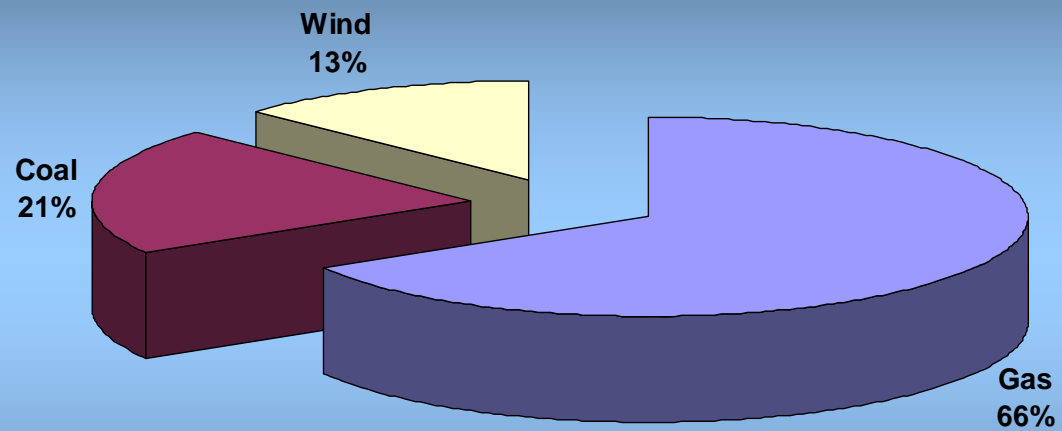


System Statistics

NI Summary System Statistics

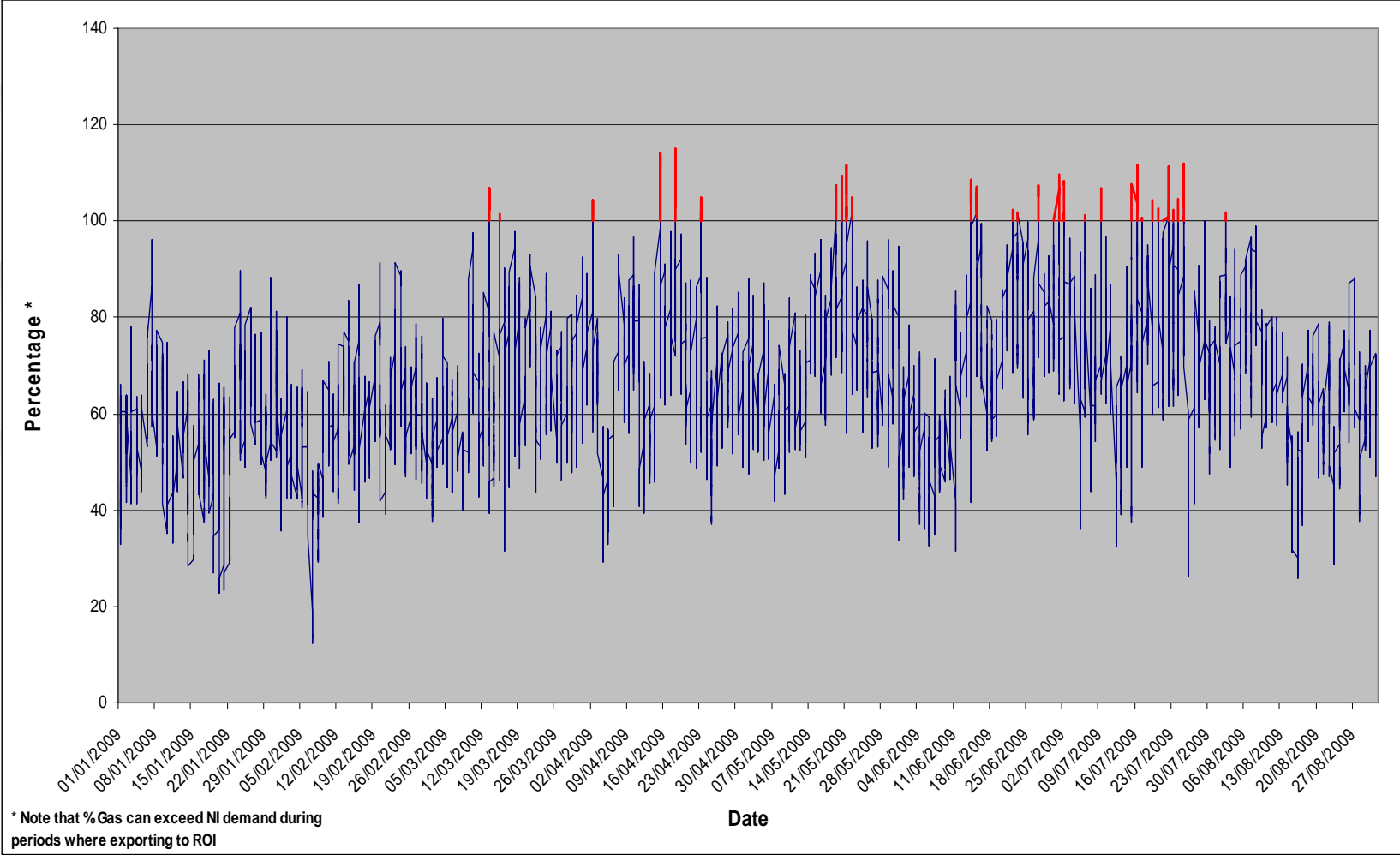
- Main thermal Generating Plant 1996 MW with 291 MW of OCGTs giving a total (sent out) figure of 2287MW
- Generating stations 3
 - Moyle DC interconnector to GB -80/450MW
 - Energy 2009 YTD 5.85 TWh
- Energy Growth (year on year) for Sept -2.67%
- MW Load variation from 516 to 1725

Current NI Fuel Mix (Oct 2009)



Gas % System Demand

Jan – Aug 2009

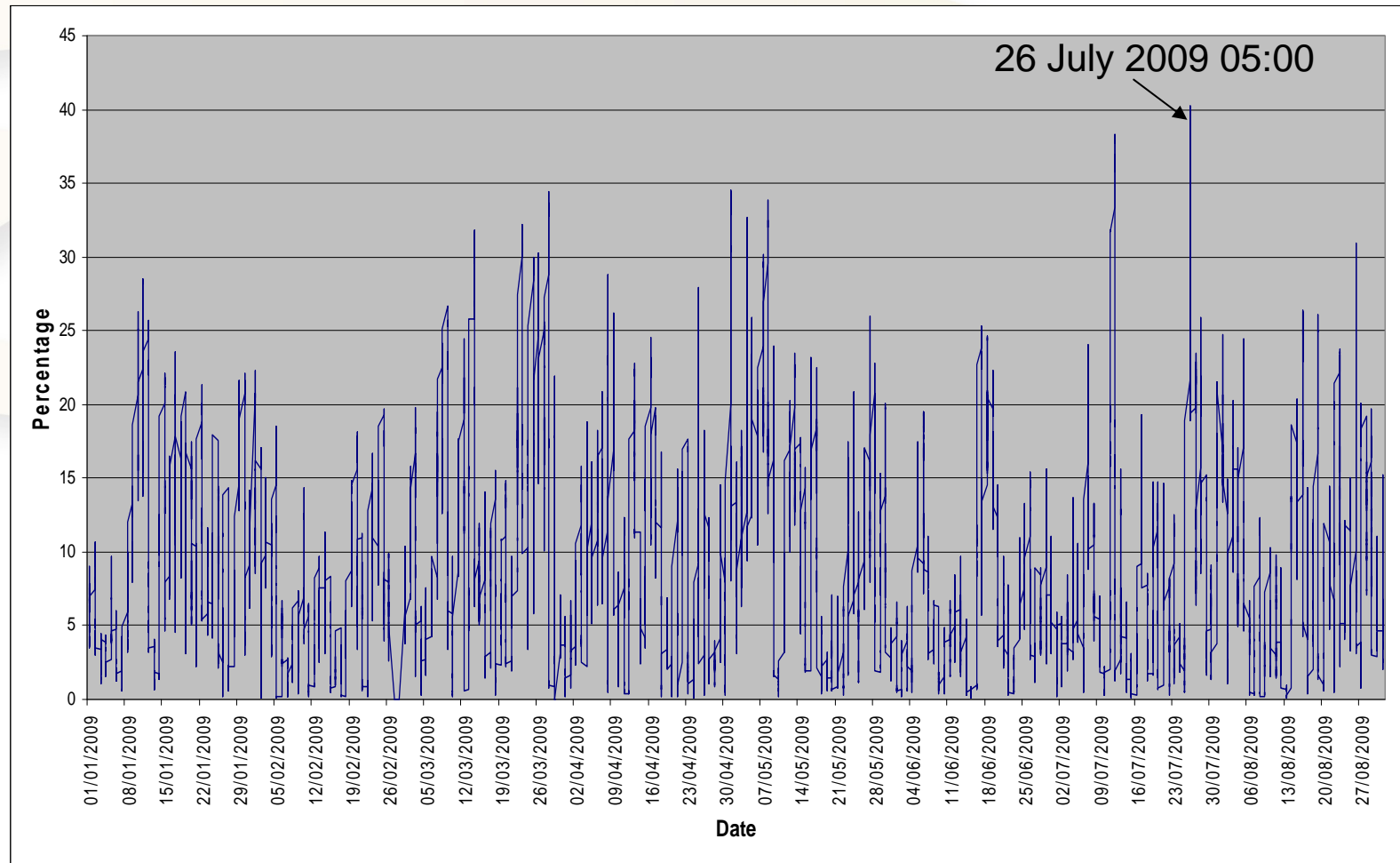


Wind Statistics

- Wind Generation capacity 292 MW
- No. of Wind farms 21
- Expected Capacity by end 2009
(extension to existing site) 303 MW
- Peak wind output (3rd Oct 09 01:00) 273 MW
- Wind contribution at system peak
(29 Jan 09 @ 17:30) 195MW
- No transmission connected wind farms

Wind % of System Demand

Jan – Aug 2009





System Operation Issues

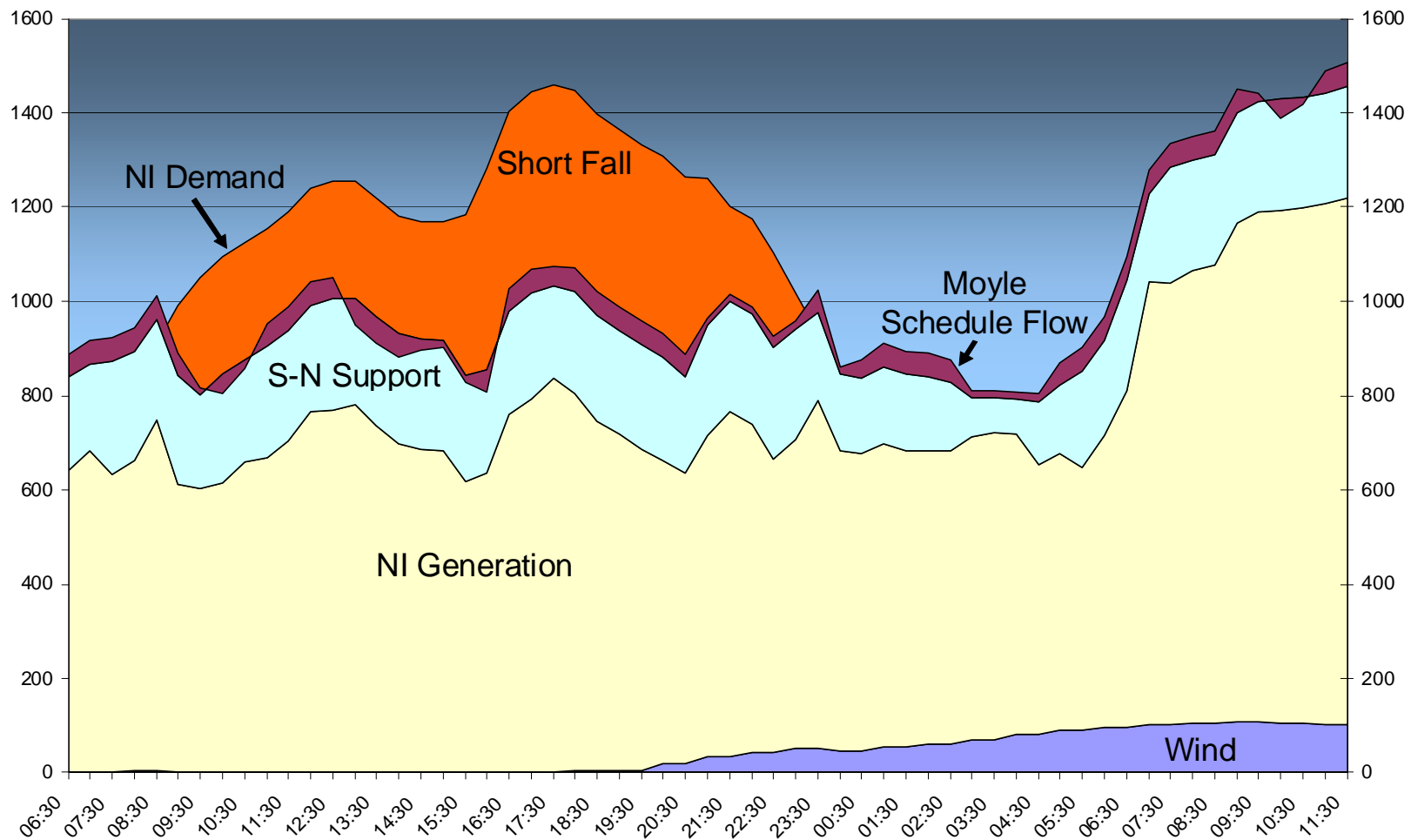
Moyle Flow

- Flow on the Moyle interconnector is decided as the result of the ex-ante UUC run
- The UUC takes no account of system constraints
- The TSO can only alter this flow by SO-SO trading with NGC
- SO-SO trading is agreed close to real time and is only firm once agreed

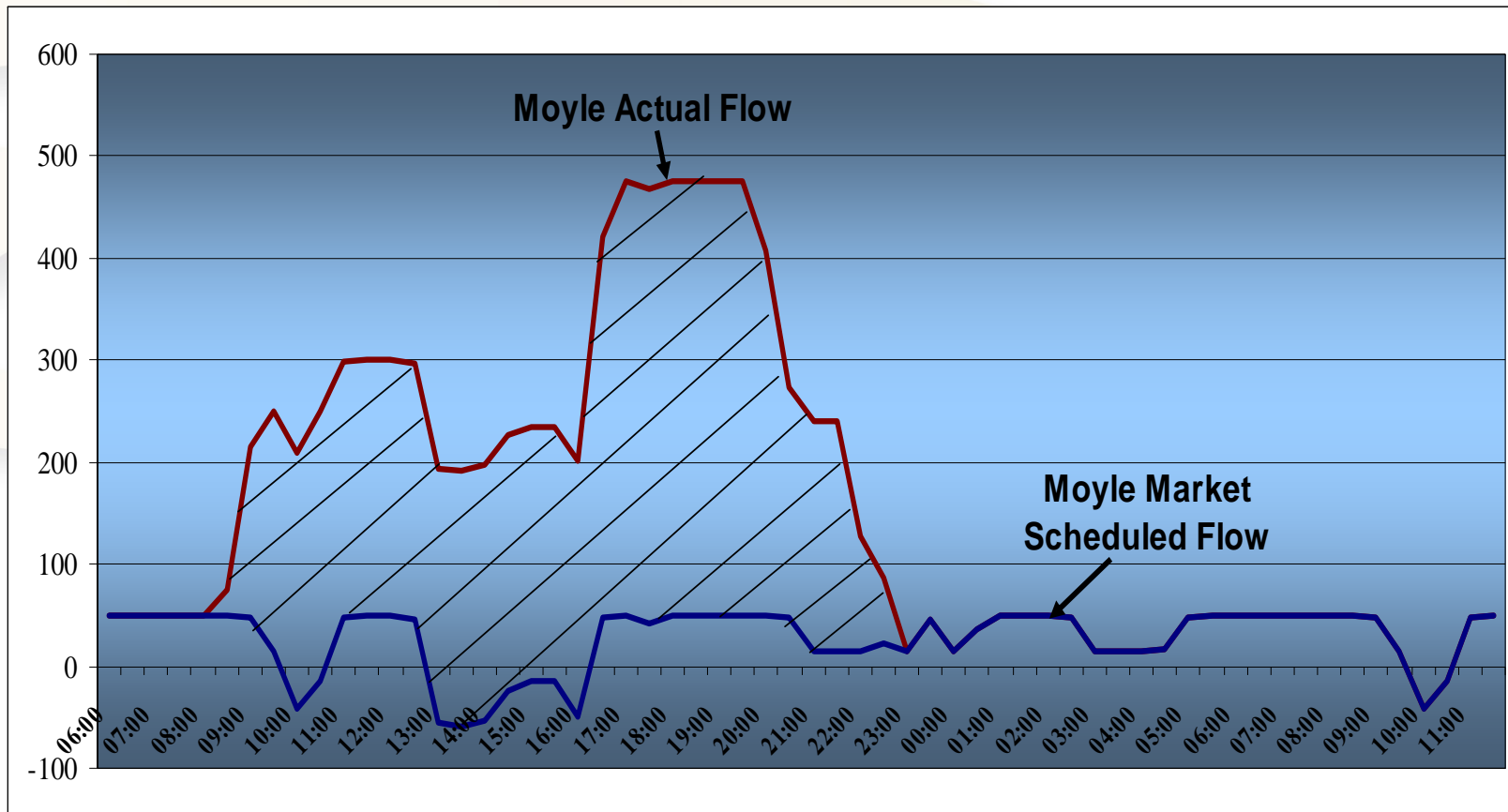
Moyle and the System – 16th Nov 2008

- Four large units unavailable in NI giving a thermal cover figure of only 858MW
- South - North tie line had a 380MW Total Transfer Capacity (TTC) giving maximum contribution circa 220MW
- Moyle at peak only 50MW but for long periods was exporting 50MW
- Wind forecast 0 MW
- Load forecast at peak 1458MW
- Result of the above is a **very** concerned system operator

Moyle and the System – 16th Nov 2008



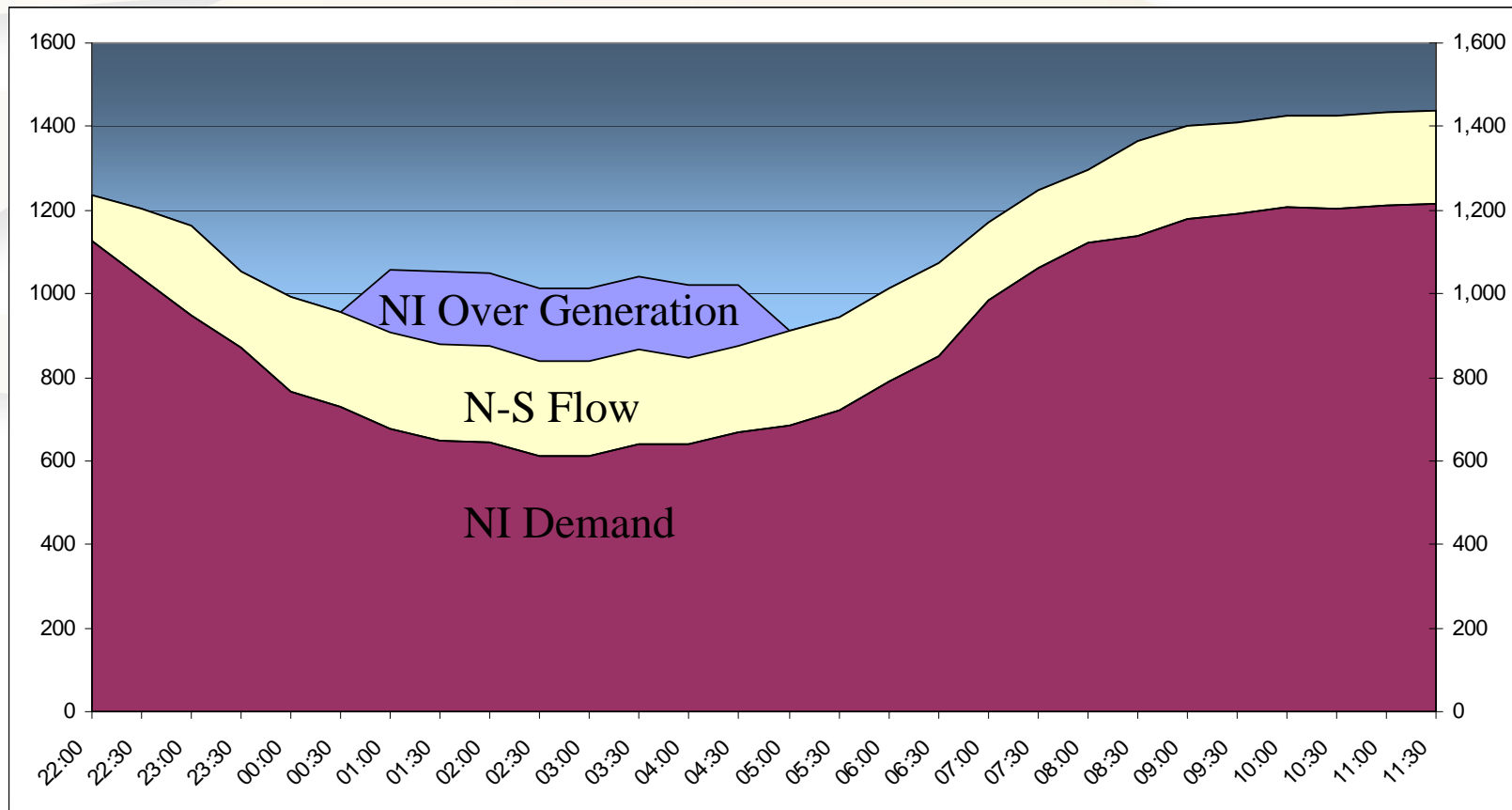
Moyle and the System – 16th Nov 2008



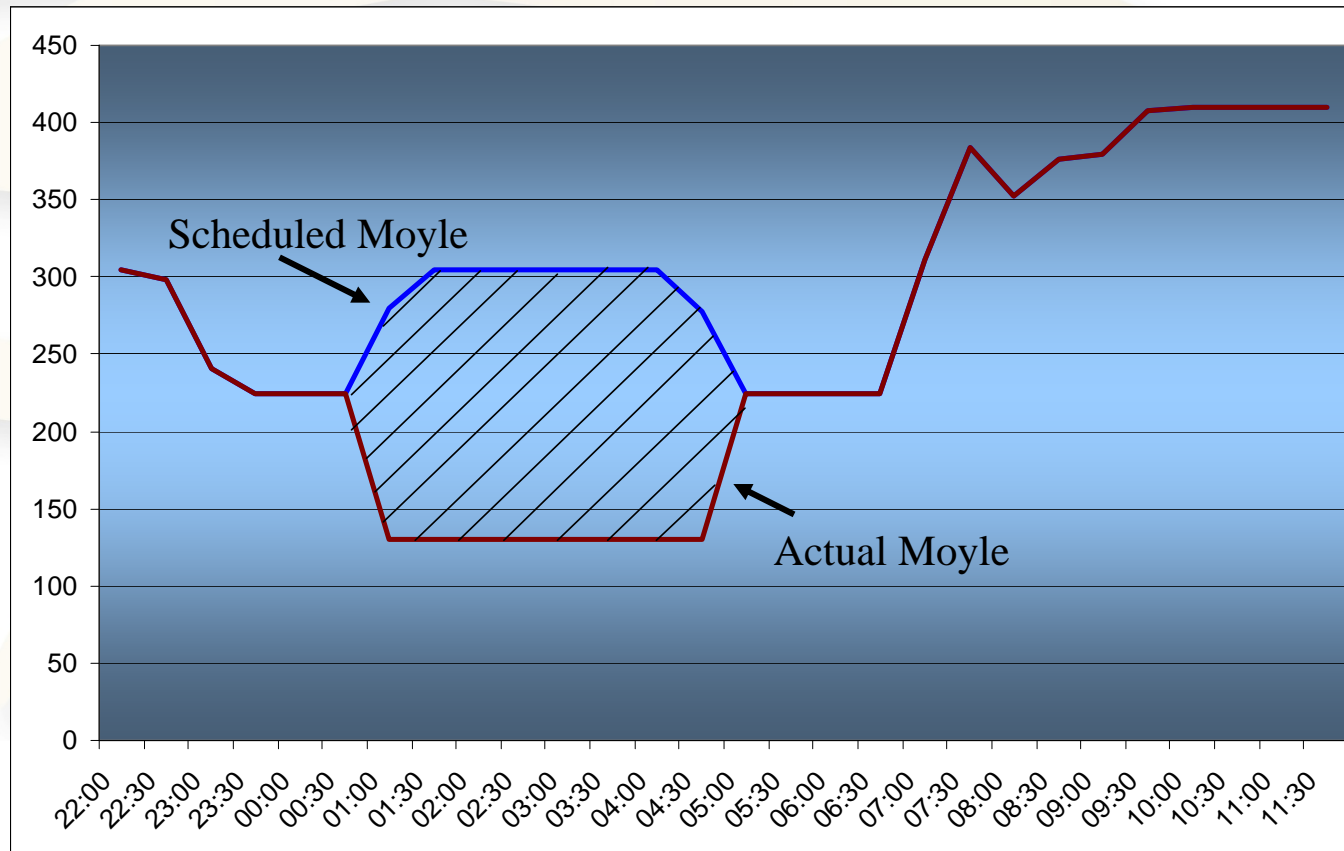
Moyle and the System – 8th Sep 2009

- Moyle scheduled import was 305 MW from 01:00 to 05:00
- North – South tie line had a 320MW TTC providing an export circa 200MW
- Wind generation approx. 240 MW all night
- NI minimum forecast demand was 610 MW over this period
- Three units required in NI at all times and on running plant this meant a min gen level of 430MW

Moyle and the System – 8th Sep 2009



Moyle and the System – 8th Sep 2009



Moyle flows in future


- The foregoing slides demonstrate the need for a mechanism to alter Moyle flows firmly and ahead of real time
- The SOs have been engaging with the Regulatory Authorities on mechanisms which can achieve this end
- From this engagement the SOs were directed to put in place a contract with NGC that allowed day ahead SO-SO trading on a firm basis
- This work is currently in progress



Winter Outlook

Winter Outlook 2009/10

- Estimate 1589 MW (highly temperature dependent)
- Decrease of 136 MW from 2008/9
- Two additional Open Cycle Gas turbines from last winter (84 MW)
- Additional 100 MW of wind expected compared to last winter
- Firm day ahead trading expected with NGC before the end of 09



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