Gas Contingency Arrangements Seminar 13 October 2006

UK Gas Emergency Arrangements

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UK Gas Emergency Arrangements

- Gas Safety (Management) Regulations 1996
  - UK Legislative framework and the role of the NEC
- Network Gas Supply Emergencies
  - Gas Deficit
  - Transportation Constraint
  - GS(M)R Safety Monitors
- Emergency Exercises 2006
- Two Potential Emergency Scenarios

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GS(M)R – 1996

Key Objectives

- To minimise the risk of an incident occurring through loss of pressure and/or failure to control the secondary and supplementary systems, thus mitigating any potential danger to the general public
  - Specifically aimed at the safety risk associated with gas distribution and supply
- Not security of supply or the wider social and economic issues
- GS(M)R requires ALL consumers to be protected
  - Industrial and domestic
  - But is particularly aimed at the most vulnerable consumers (e.g. domestic)

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GS(M)R – 1996

Obligations

- Enacted following HSC/DTI report
  "Britain's Gas Supply: A safety Framework" (1995)
- Criminal law NOT civil
- A permissioning, Safety Case regime
- Low frequency / high consequence events

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GS(M)R – 1996

Safety Case Obligations

- The current NEC Safety Case was accepted by the HSE in March 2005

- Its clear objective being:
  - To prevent a Network Gas Supply Emergency from occurring, and if it should occur
  - Minimising the risk to the general public

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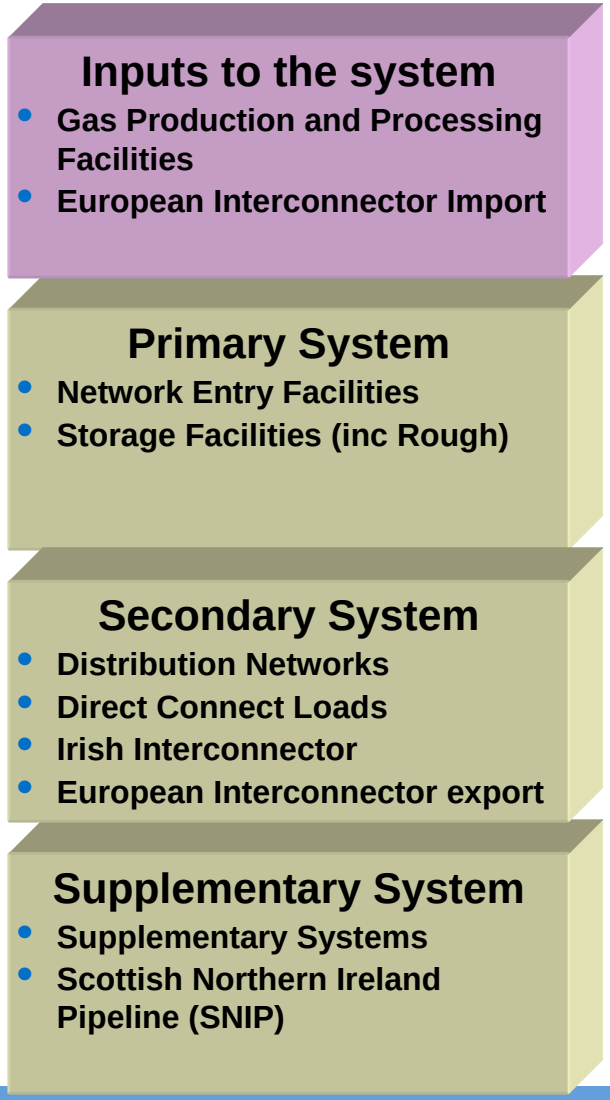
Direction and GS(M)R Co-operation



Continuity of gas production and imports are subject to specific but separate DTI and Government emergency arrangements

- Network operators have a statutory obligation to comply with their Safety Cases
- All gas conveyors are obligated to comply with NEC direction in the event of an emergency being declared
- Consumers, Shippers, Storage operators, Interconnectors, gas processing facilities and others have a statutory legal responsibility to co-operate “so far as is necessary” with gas conveyors and the NEC in discharging their duties

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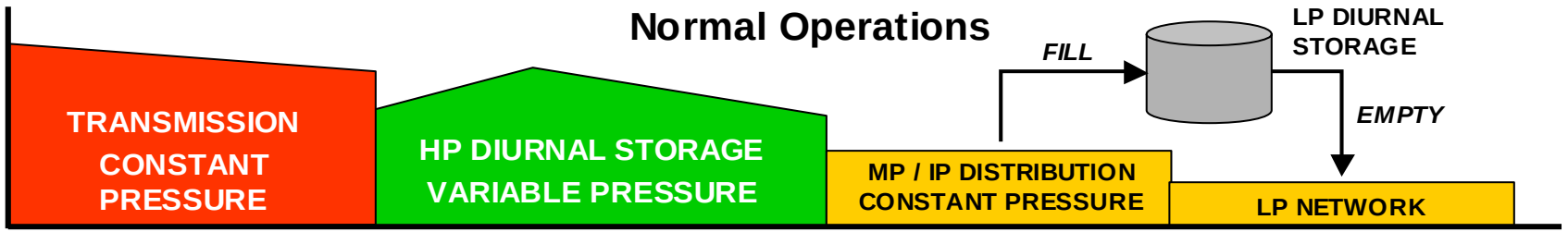
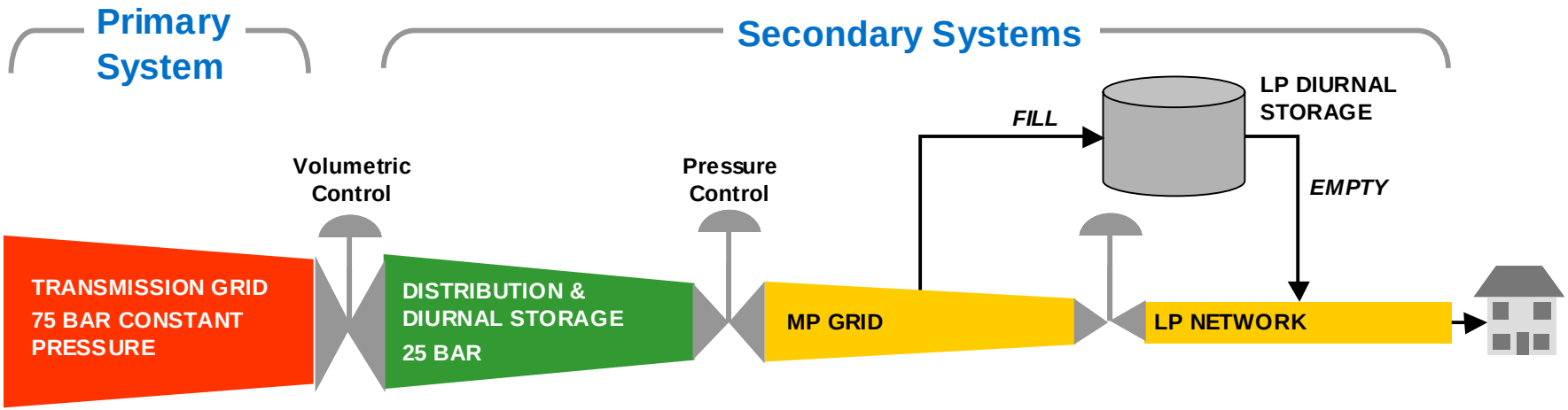
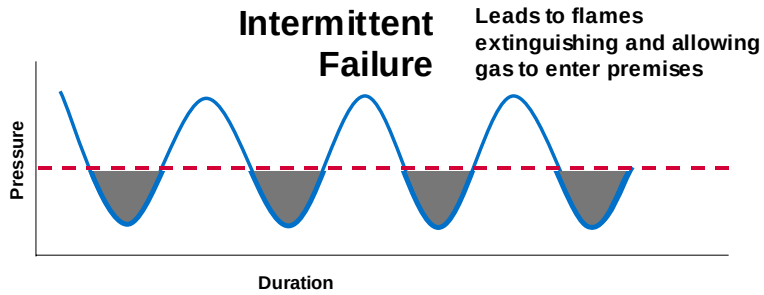
Network Gas Supply Emergencies

Supply / Demand Balance







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Network Gas Supply Emergencies

Emergency Stages/Options Available

		GDE	SMB	CTC
STAGE 1 Potential	Emergency Spec Gas	✓	×	✓
	Primary System Linepack	✓	×	✓
	Secondary System Storage	✓	×	✓
	Emergency Interruption	✓	✓	✓
	Public Appeal 1 & 2	✓	✓	✓
	Storage Curtailment	×	✓	×
STAGE 2 Declaration	Maximise Beach Gas	✓	✓	×
	Maximise Storage	✓	✓	✓
	Suspension of OCM	✓	✓	×
	Public Appeal 1 & 2	✓	✓	✓
STAGE 3 Firm Load Shedding	VLDMCs inc Interconnector	✓	×	✓
	Protected by Isolation customers	×	✓	×
	Public Appeal 1	✓	✓	✓
	Flow GSMR Storage Gas	×	✓	×
	Consumers >25,000 tpa	✓	×	✓
	Sites protected by monitor	×	✓	×
	Public Appeal 2	✓	✓	✓
STAGE 4 Isolation	Allocation	✓	✓	✓
	Isolation	✓	✓	✓
STAGE 5 Restoration	Restoration of supply	✓	✓	✓
	Revocation of previous stages	✓	✓	✓

GDE – Gas Deficit Emergency ; SMB – Safety Monitor Breach; CTC – Critical Transportation Constraint

Network Gas Supply Emergency

Gas Supply Deficit

- A Network Gas Supply Deficit occurs whenever there is insufficient gas available in the NTS to maintain a National supply / demand balance

- The steps taken to maintain control are dependent upon the prevailing supply/demand conditions and the nature of the incident (i.e. scale and duration)

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Network Gas Supply Emergency

Critical Transportation Constraint

- A Critical Transportation Constraint occurs when the Primary Transporter is unable to maintain adequate pressures at specific gas offtakes from the National Transmission System (NTS)
- Various options to reduce local demand are available in such an emergency
- One key difference being that the “On-the-day Commodity Market” (OCM) would not be suspended at stage 2

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Network Gas Supply Emergency

GS(M)R Safety Monitors Breach

- Safety Monitors ensure continued safe control of the Network should the UK experience a severe winter
- If the safety monitor is breached for any storage type, the NEC will declare an emergency
- This type of emergency could be protracted and stay in place until either
  - The storage gas under the monitors is replenished, or
  - The monitor levels decline as the winter ends
- Safety monitor levels are a function of the supply forecast

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2006 Emergency Exercises

Name	When	Purpose	Participant
Foxtrot	Jan	Communication exercise with upstream	DTi/Upstream /NG
Pelican	Aug	Shipper communication exercise	Shippers & NG
Neptune	Sept	Test National emergency arrangements	NEC/HSE/DTi/Shippers/Storage sites/Interconnectors/IoG/Interruptible consumers/VLDMCs/Large users
Nemo	Oct	NEMT strategy exercise	NG
Niagara	Nov	Desktop exercise	NG
Tulip	Nov	NTS Asset exercise	NG
Golf	Oct & Nov	Two part exercise	DTi/Upstream/NG

Potential Scenario

Loss of the Rough facility

- Assume incident 16 November 2005

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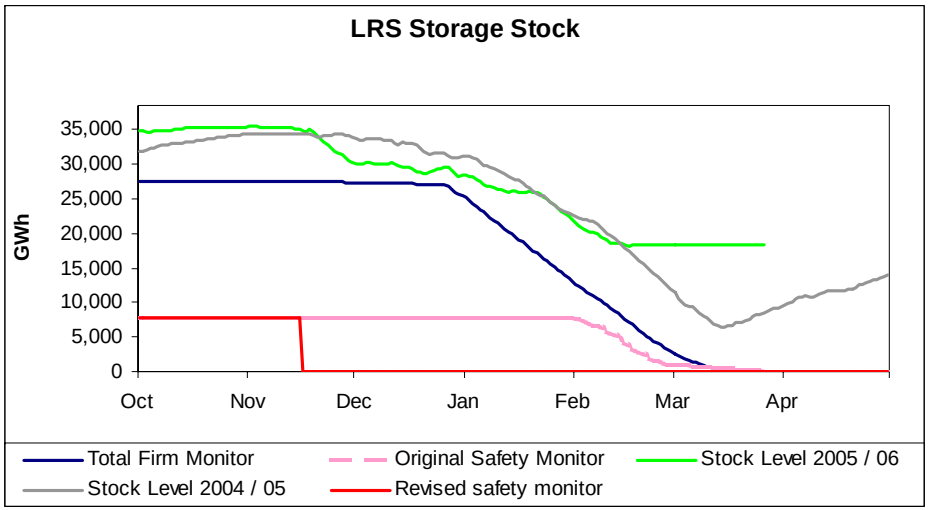
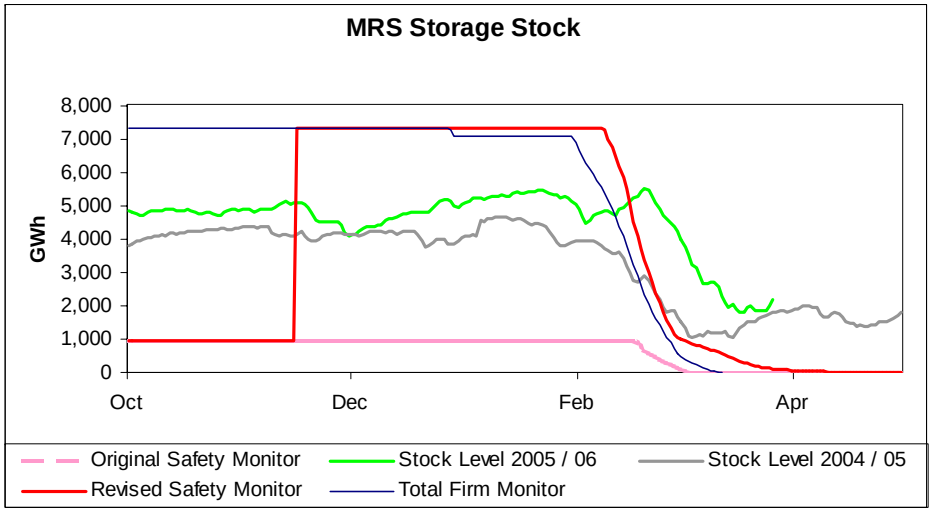
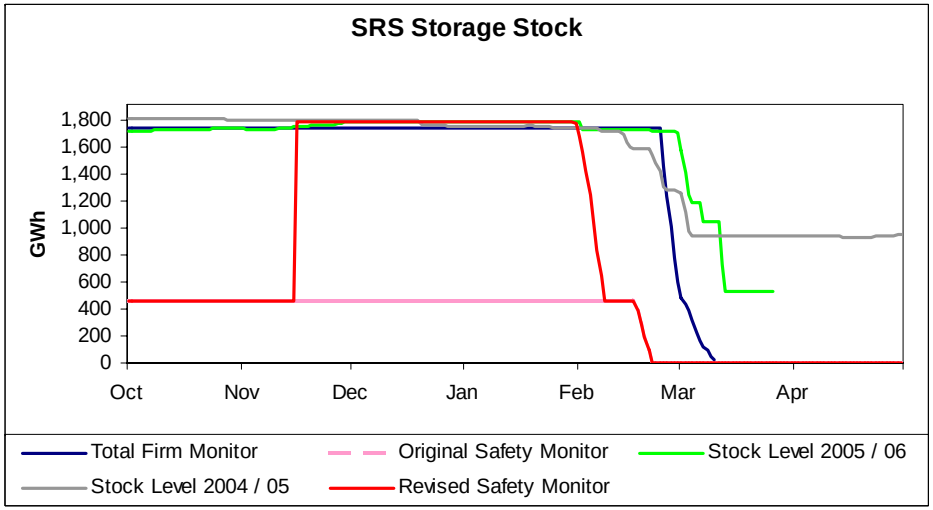
Safety Monitors Position

16 November 2005







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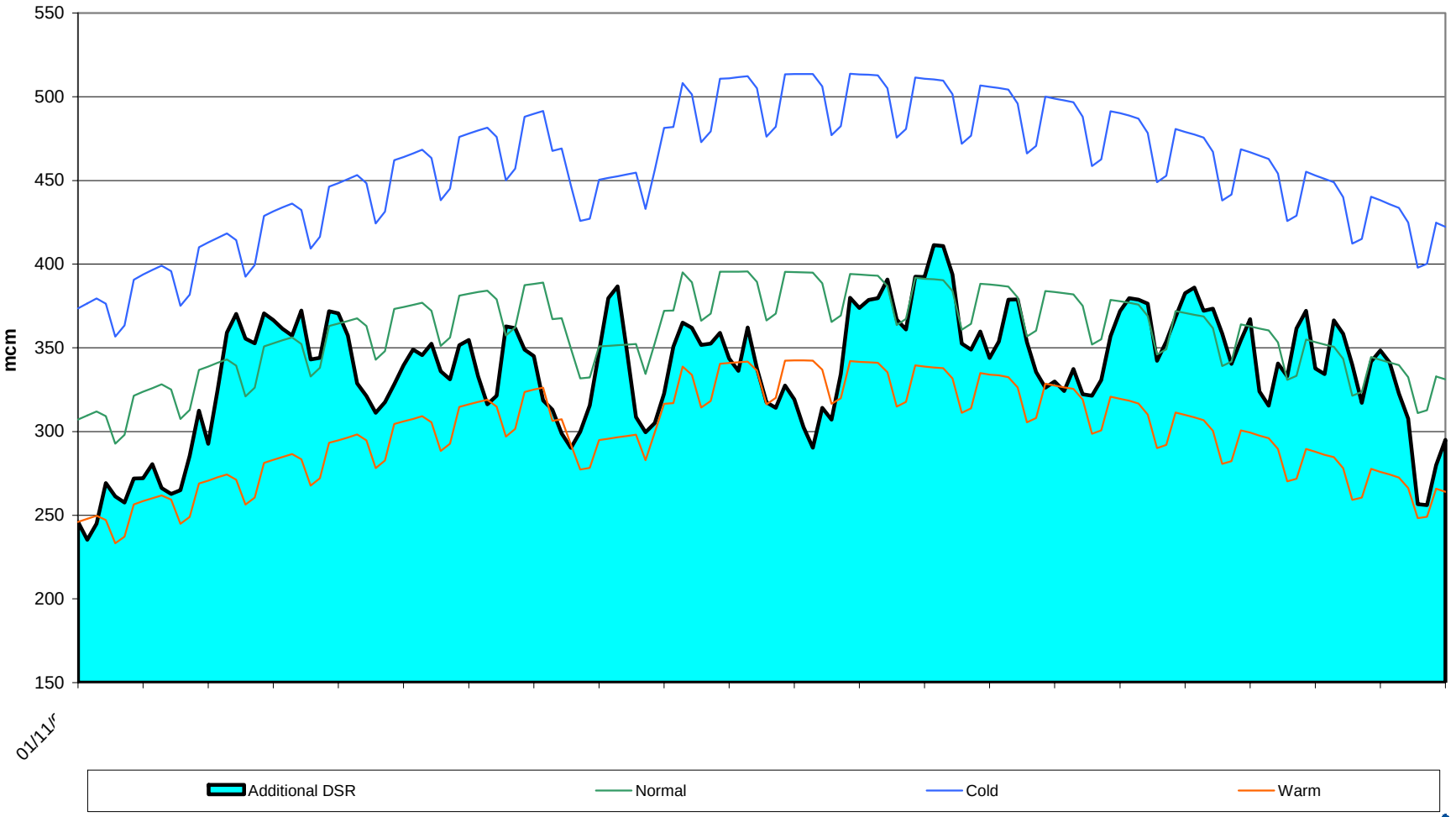
Outturn Demand Curve 2005/06



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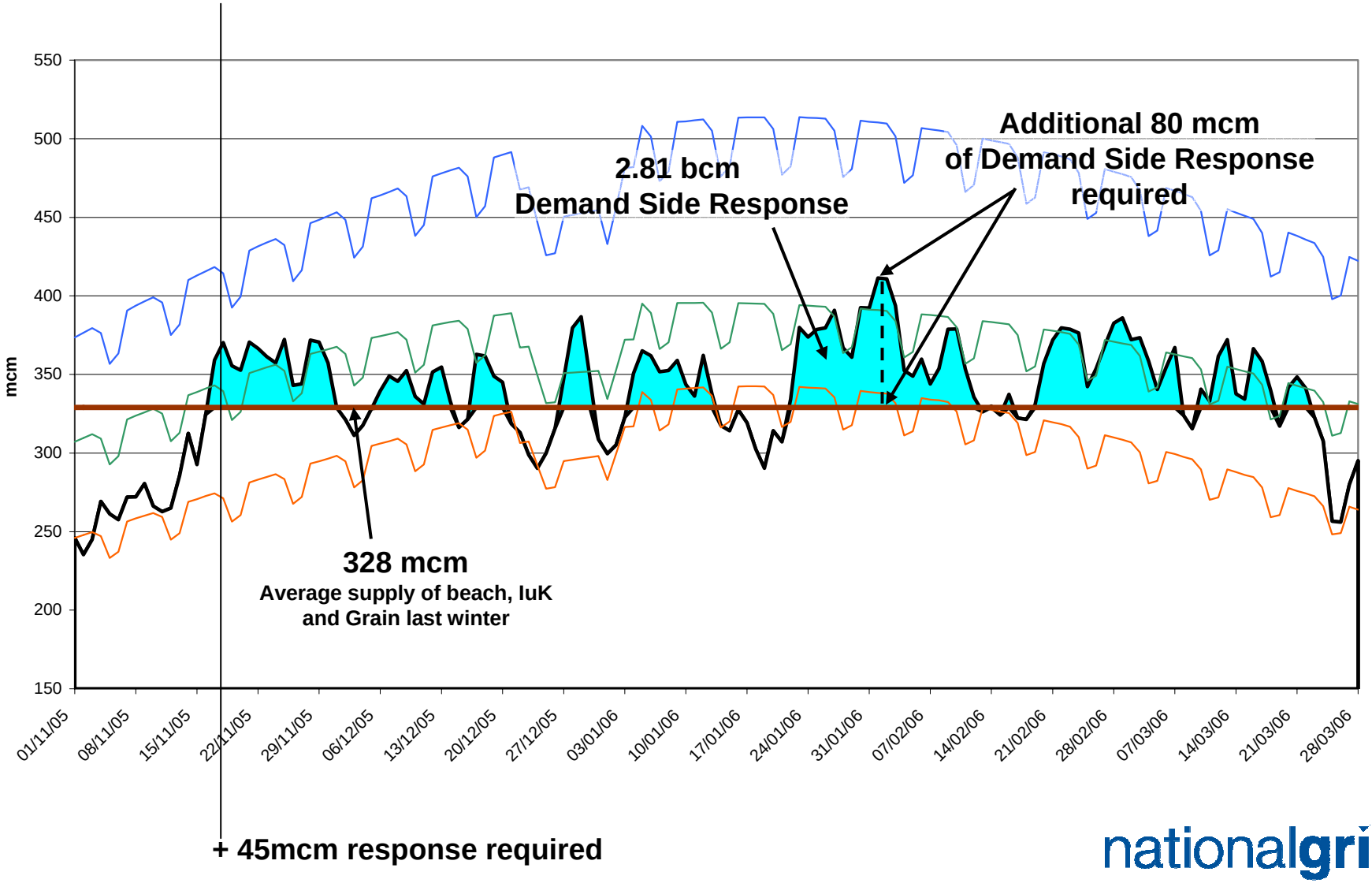
Demand Curve 2005/06



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To conclude..

- From the NEC point of view, the present emergency arrangements are in place and ready to respond to prevent or manage a Network Gas Supply Emergency should it occur.

- Hence physical and public safety will be preserved

- The key question is: -

To what extent is wider Industry ready & prepared to deal with such low frequency, high impact events?

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