

Interruption Seminar Tuesday 26th February 2008

Venue – Leeds United Football Club
Elland Road
100 Club

Agenda

10.00am Coffee and registration

10.30am Interruption Seminar

- Introduction to NGN
- Interruption Arrangements
- Overview of Tender Process

Alex Wiseman

Tony Pearson

Anna Taylor

Lunch

- Bidding Scenarios
- Q & A Forum

Anna Taylor

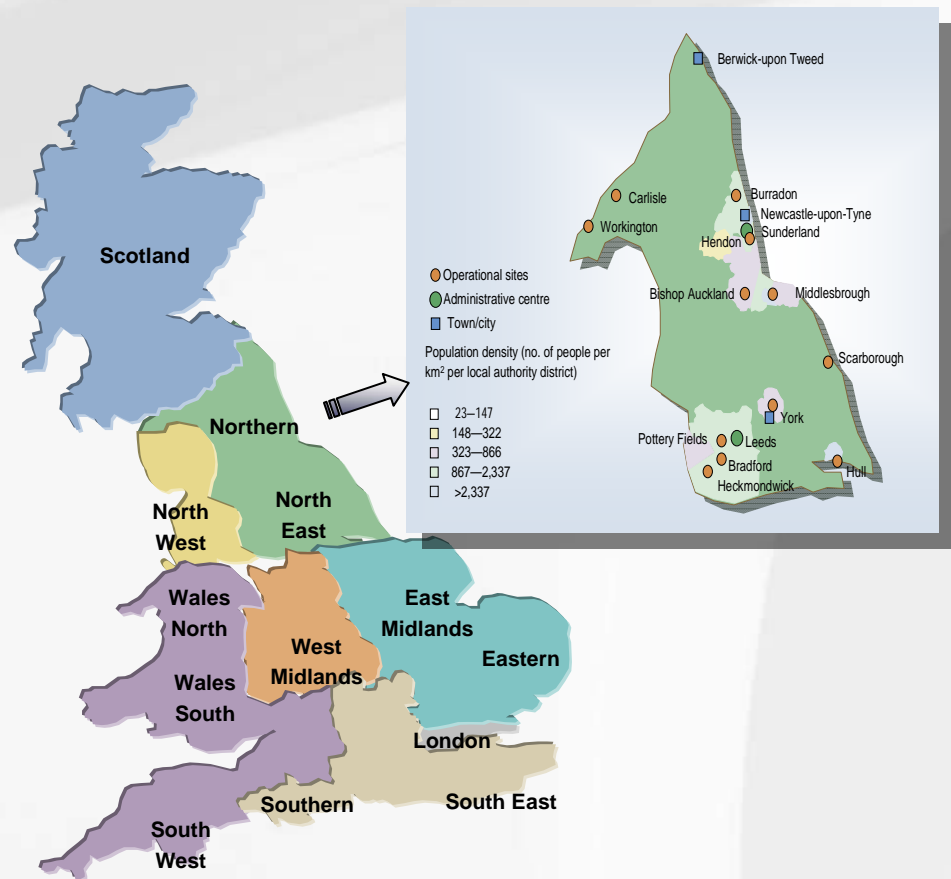
2.00pm Close

Introduction

Alex Wiseman – Regulation Director

Introduction to NGN

- History and Geography
- Ownership
- Business Model
- Strategy
- Achievements to date



Northern Gas Networks Limited (NGN) bought the North of England gas distribution network from National Grid in June 2005.

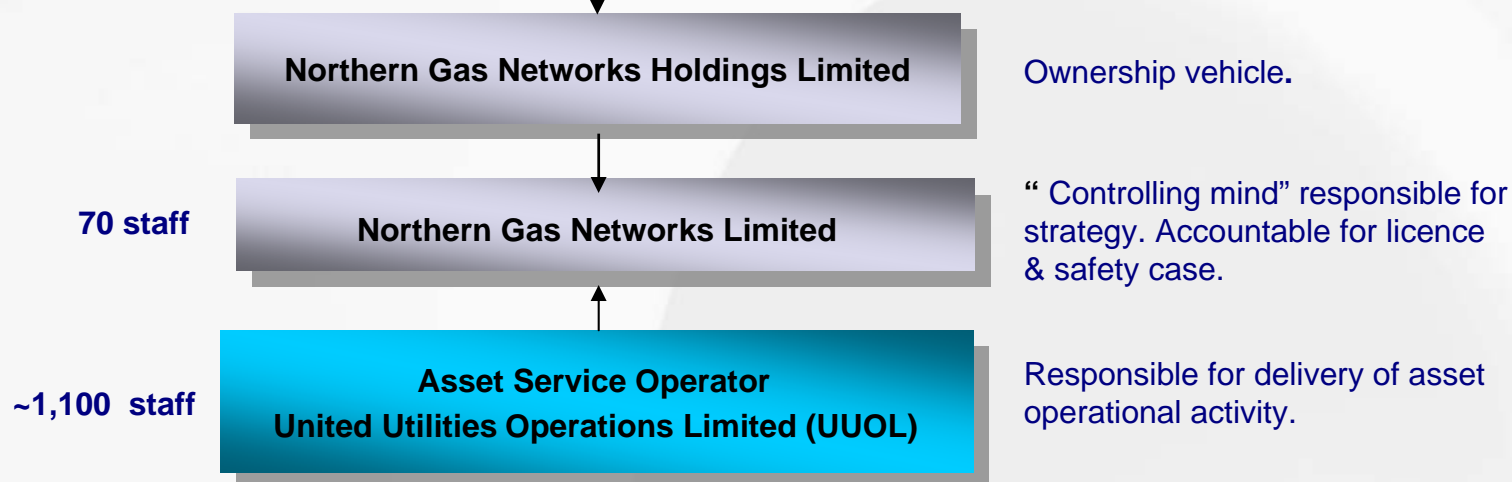
The DN is primarily rural but has four urban areas — Leeds, Bradford, Newcastle and Middlesbrough. Population is 6.7m.

NGN owns and manages a gas distribution system of 37,000km supplying gas to 2.6m users.

Governed by the Gas Act 1986 NGN's licence is regulated by Ofgem, the gas and electricity regulator.

NGN is responsible to the Health & Safety Executive for health and safety matters.

Ownership



- NGN is owned by a consortium of six partners
- Partnership has extensive utility experience

Innovative Business Model

- NGN has implemented a unique business model based on the principles of Strategic Asset Management, under which the roles of asset ownership/asset management and asset services are unbundled
- On 1 June 2005, NGN entered into an Asset Services Agreement (ASA) with United Utilities to contract out the provision of a wide range of services including
 - Operation and maintenance of the DN
 - Delivery of Capex and Repex programmes
- Competitive procurement process used to select service provider. UUOL selected on basis of UU's market experience and success in similar utility contracts
- NGN remains accountable for all asset management including licence and safety case obligations
- UUOL is a special purpose vehicle working exclusively for NGN. Neither CKI nor NGN has any interests in UUOL or its parent

Key Features of the ASA

- Initial term of 8 years with option to extend by a further 5 years aligned to regulatory periods
- This ensures UUOL will adopt maintenance methodologies consistent with long term stewardship of assets and structured to achieve long term efficiency improvements
- UUOL can only do work for NGN
- Contract is based on a target cost approach supported by a framework of KPIs aimed at licence, safety and customer service obligations with rewards and penalties dependent on performance
- Transparent “open book” approach



CKI Philosophy

- Long term ownership and long term stewardship of assets
- Looking to widen its experience in owning and managing utility assets into Europe
- Focus is on predictable, low-risk businesses
- Strong emphasis on corporate governance and reputation
- Regular internal audits and audits from Hong Kong to manage risk and ensure full data integrity

Business Vision

NGN's vision is to be benchmarked by Ofgem and the HSE in the top two comparable utilities in:

- Safety Management
- Efficiency
- Customer Service

Safety Management

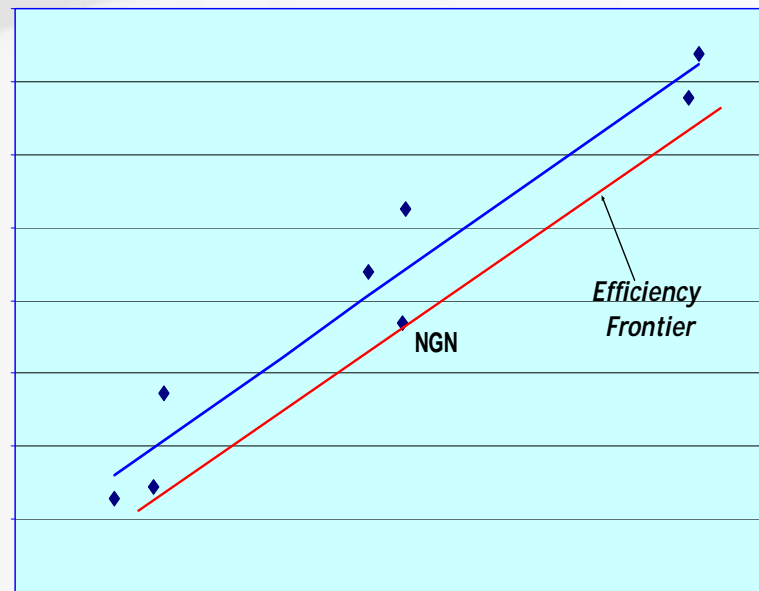
- Lost Time Injuries down 40% 2005-2007
- Injuries to members of the public down over 50% 2005 - 2007
- Achieved OHSAS 18001 in 2007 - first GDN to have both OHSAS 18001 and ISO 14001
- Cleared backlog of 23,700 pipeline records - all now digitised. Fully compliant in digitising pipes within 42 days



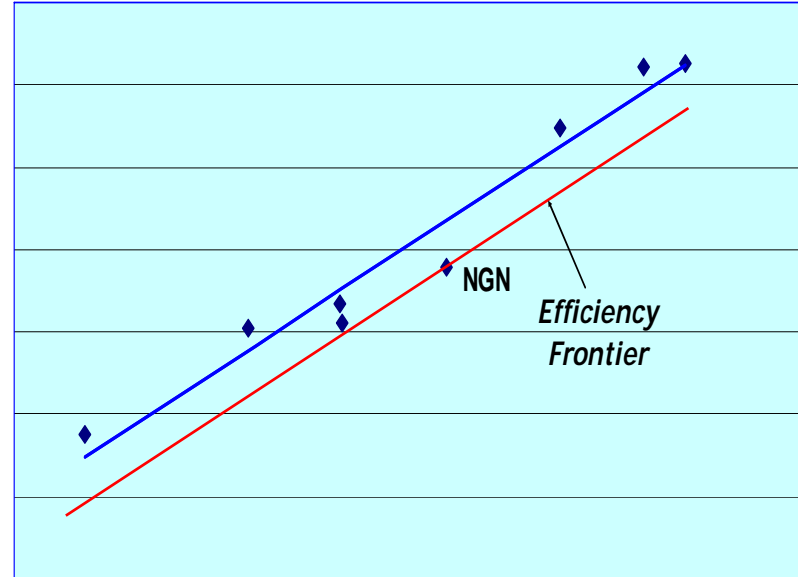
Safety is a key management focus and we have seen significant improvements since sale

Efficiency

Controllable Operating Expenditure (2006/7)
Ofgem Analysis



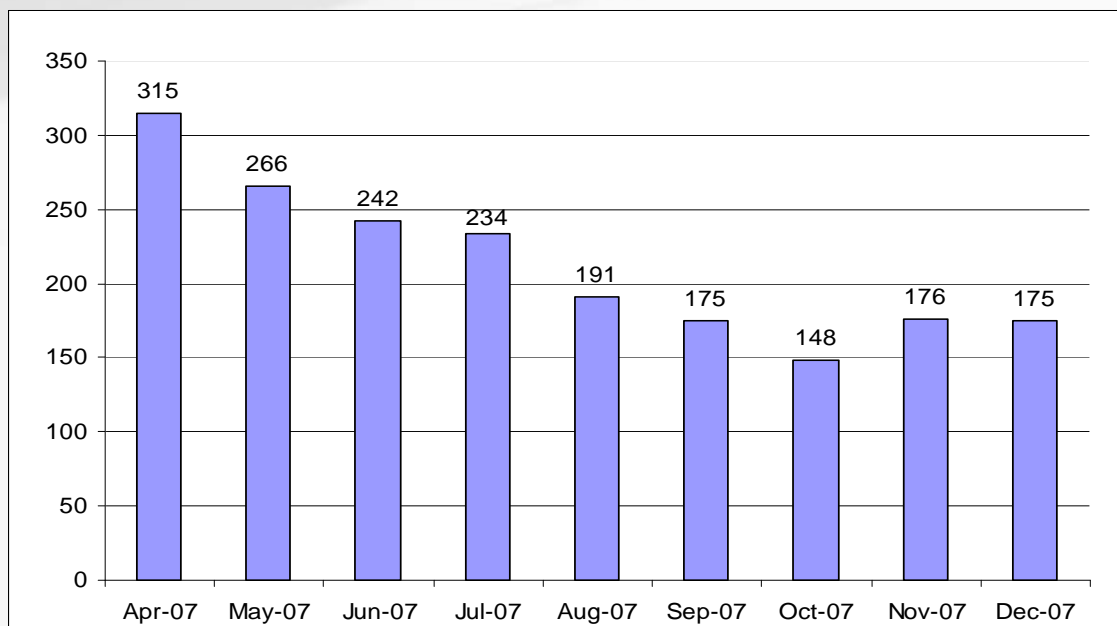
Replacement Expenditure (2006/7)
Ofgem Analysis



NGN benchmarked by Ofgem as most efficient on both repex and total opex

Customer Service

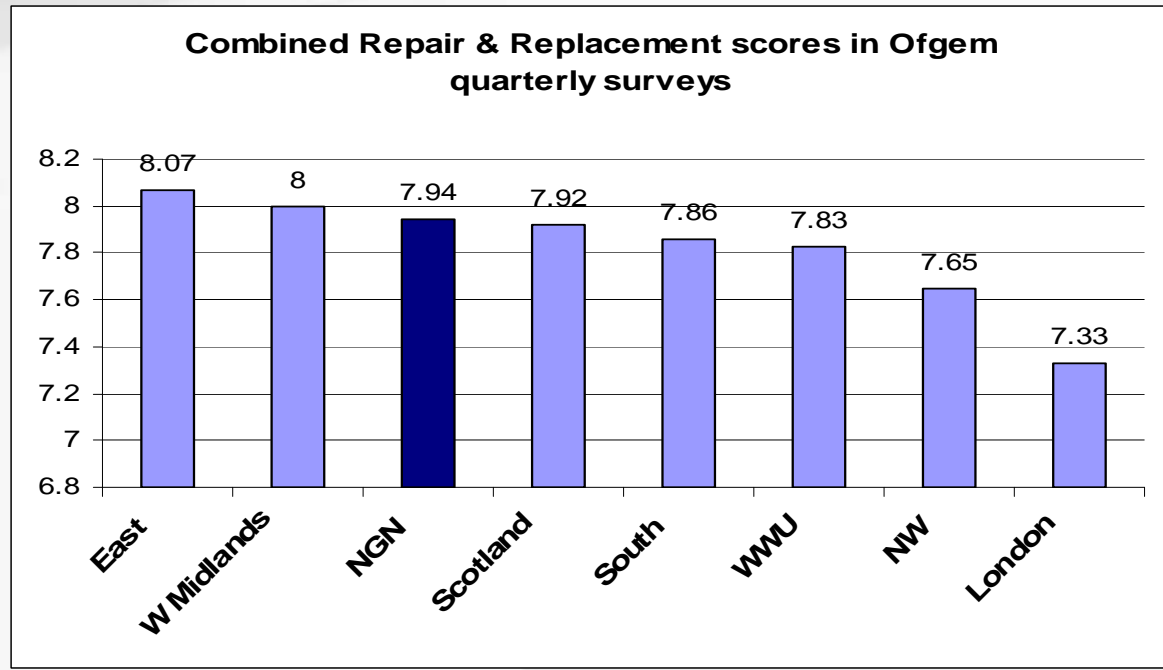
2007 - Complaints by month



- Steady progress in reducing complaints.
- Energywatch complaints reduced from 20+ per month in Autumn 2006 to around 4 per month

Customer Service

Combined Repair & Replacement scores in Ofgem quarterly surveys



- NGN has improved from 6th in 2005/6 to 3rd in 2006/07
- Progress still required to achieve top 2

Customer Service Improvements

- Recruitment of Customer Liaison Officers
- Impression Cards sent following work undertaken
- `Experts' in customer roles
- Member of Institute of Customer Service
- Clear management focus with regular updates to the Board
- Customer Service Committee established



Not achieving strategic objective yet but we'll get there

Achievements to date

- Set up went well with experienced management team recruited and strong governance framework in place
- Partnership developed with contractors
- Improving safety and customer service delivery
- Teething problems when taking Connections in house now fully resolved
- 38 legacy front office systems replaced on time and on budget
- Project to move system operation from National Grid to NGN control in 2009 on track

Introduction

Q & A

Interruption Arrangements

Tony Pearson – Network Planning Manager

Overview

- Why Planned Interruption is needed
- Why the arrangements are changing
- What they are changing to
- Impact on Users
- How we assess our need (volume, duration and location)
- How we assess the bids
- Questions

The need for Planned Interruption

- Requirement to balance Supply and Demand
 - Offtake Capacity (NTS -> Distribution Network)
 - DN Transportation Capability
 - Requirement to maintain Adequate Pressure
 - If Forecast Demand > Transportation Capability or results in unacceptable pressures
 - Increase transportation capability (reinforce)
- OR
- Reduce demand (interrupt)

Why change the existing arrangements?

- March 2001 – Ofgem Consultation Document
 - Ofgem concerns about the existing Interruption Regime
 - Limited choice of interruptible contracts
 - Lack of equitability in interruption between customers on the same contract terms (NSL / non-NSL)
 - Perverse incentive on Transco the Network Operators to over-contract for interruption and under-invest in reinforcement
 - Over-contracting for interruption can lead to a cross-subsidy between firm and interruptible customers
- Ofgem decision – interruption regime requires reform

Revised Interruption Regime

- Network Code Modification 90
 - DNs licence obligation to develop proposals for reform to interruption arrangements
 - Greater control for the volume and location of interruption should rest with the DNs
 - Customers able to offer terms for interruption that reflect the value that they place on interruption, rather than having to accept a uniform price
 - Intention is that an efficient and economic balance is reached between purchase of interruption vs. investing in reinforcement
 - Decision to implement published on 15 March 2007, with an implementation date of 1 April 2008

Overall Principles

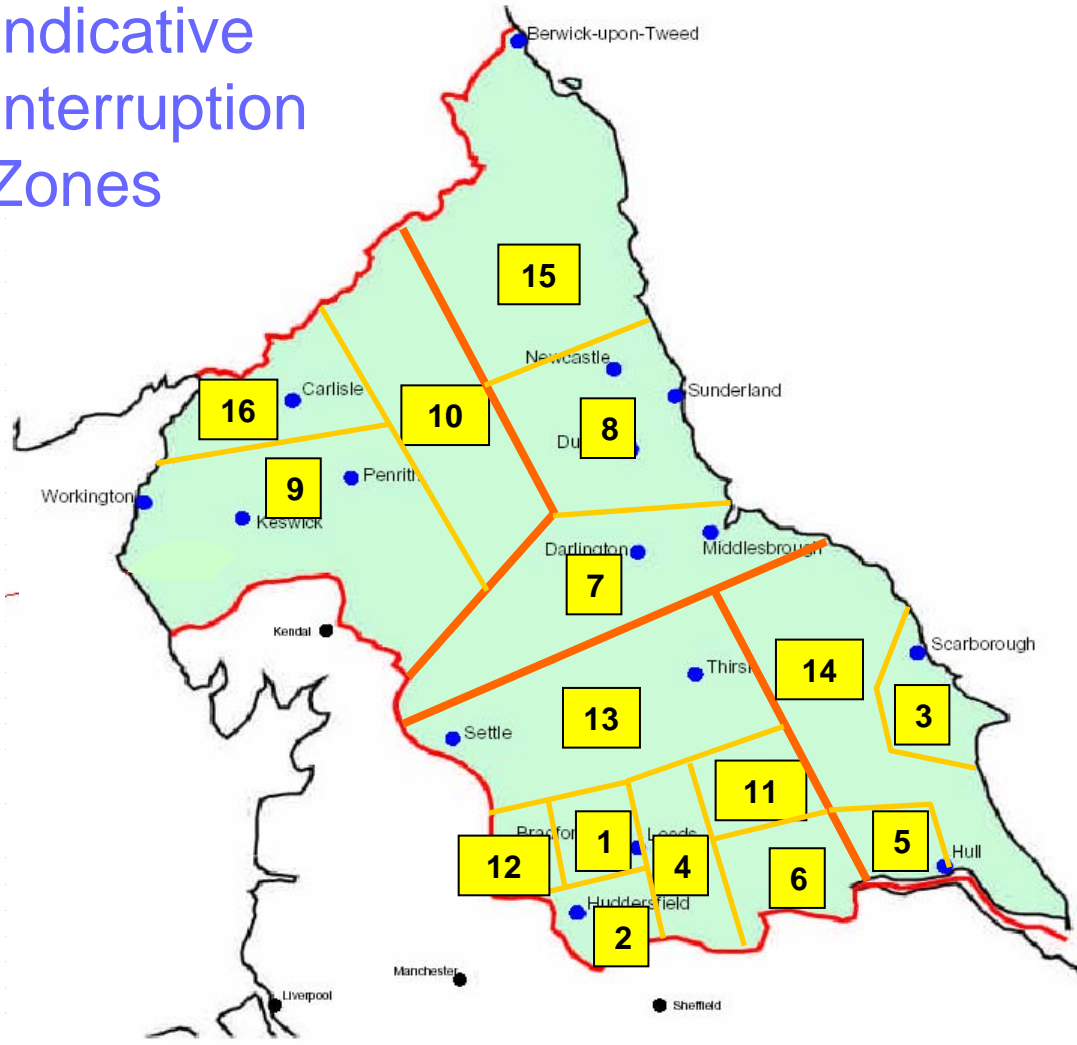
- NGN will contract for the interruption it needs, where this is more economic than investing in reinforcement
- NGN will also contract for interruption where this is more economic than securing offtake capacity
- Customers who contract for interruption are more likely to be interrupted
- Sites not contracted as interruptible will be Firm

Location of Interruption

- DN Transportation / Pressure Constraint
 - May be geographically sensitive – can affect a very limited area
- Offtake Capacity Constraint*
 - Location of interruption anywhere within the zone of influence of the particular offtake

* - Could be a physical capacity limitation OR a need to increase our contracted supply quantity from NTS

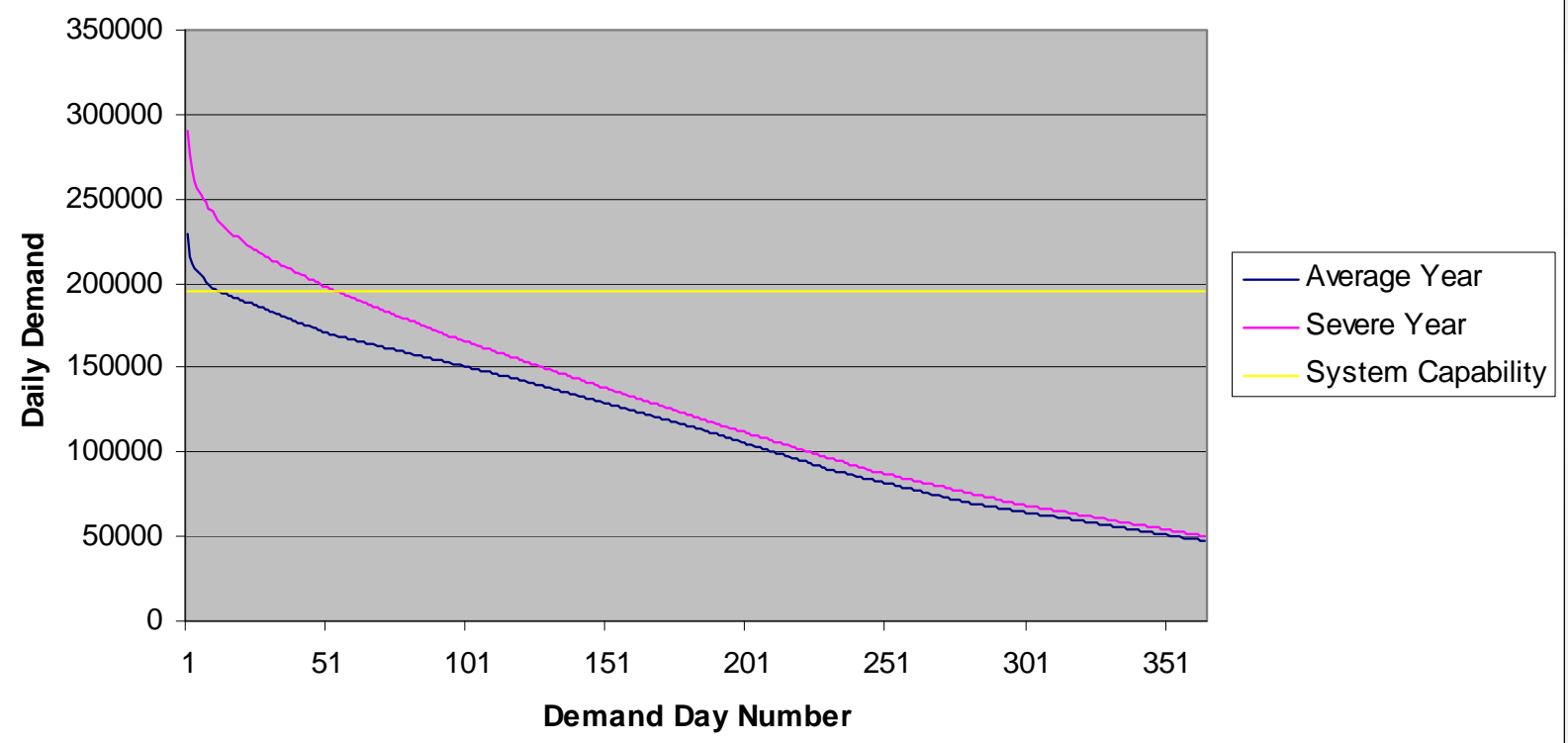
Indicative Interruption Zones



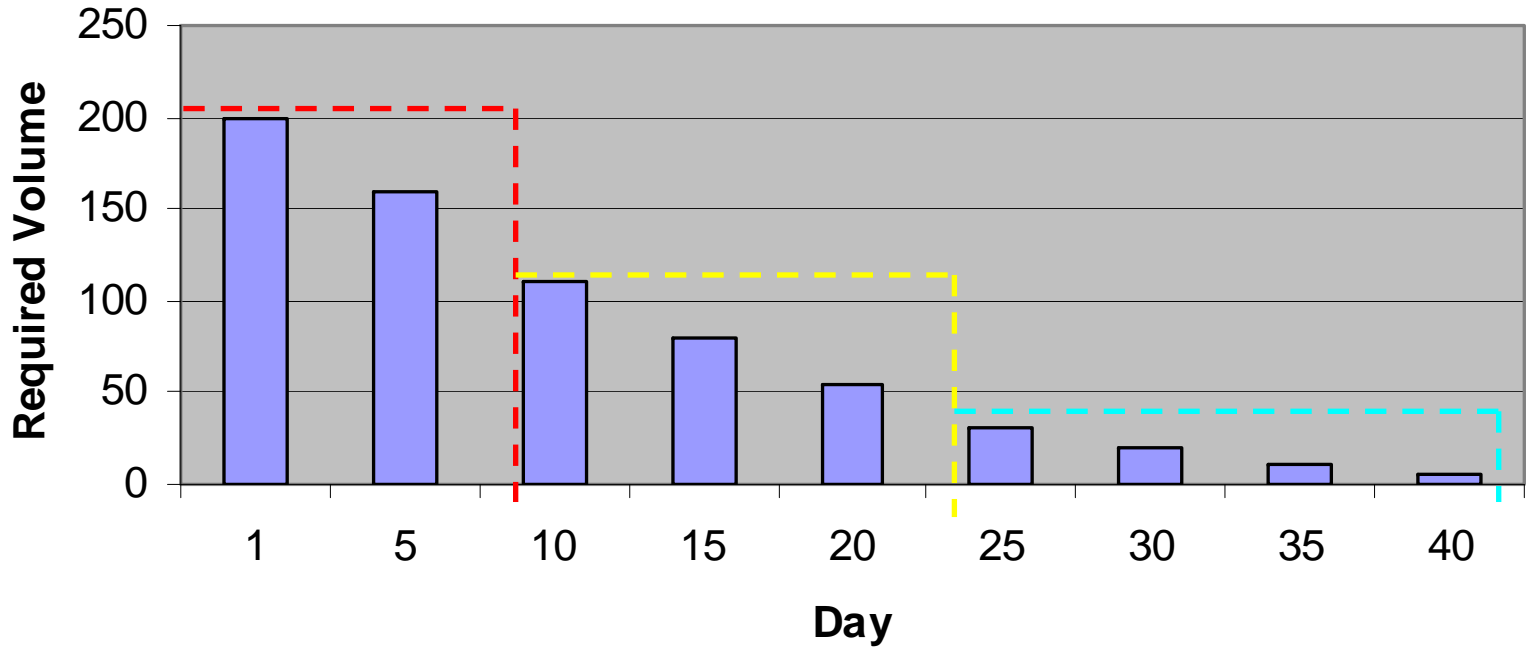
Identify the required Volume and Duration

- Assess “Need for Interruptible Capacity”
 - Model the network under peak load and identify constraints
 - For each area of constraint, model the required interruption using “Load / Duration” curves
 - Maximum requirement – based on “1 in 20 peak day” demand
 - Duration – based on “1 in 50 severe winter”
 - For each area of constraint, develop and cost an alternative reinforcement project that would remove the need for interruption

Typical Load - Duration Curve



Interruption Requirement



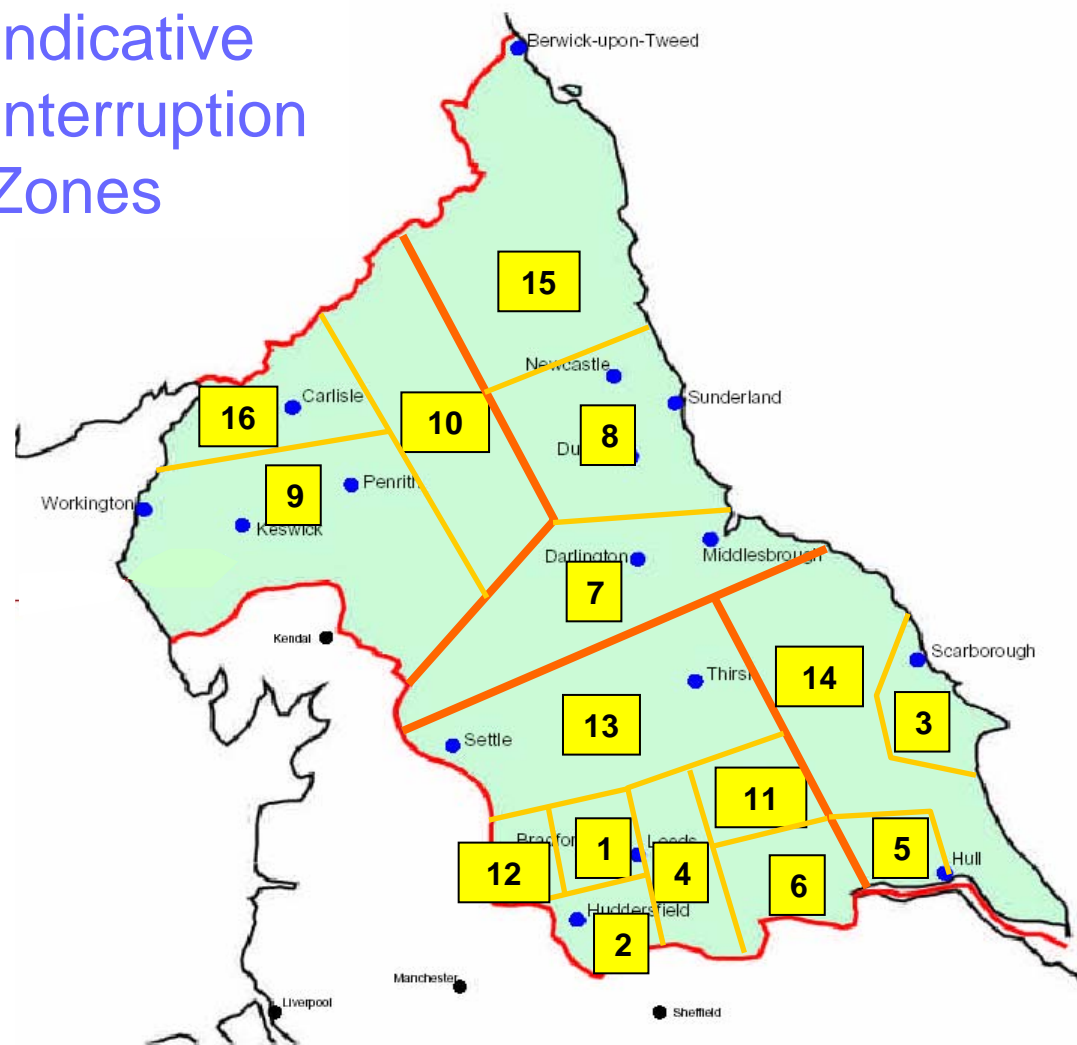
Indicative Interruption Zones

NGN Indicative Interruption Zones and Interruption Requirements 2011/12

Zone	Interruption Required due to System Capacity Constraints	
	Max No. Int. Days Requ'd by NGN	Max Int. Req'd Peak Day (GWh/Day)
GT3080001	70	0.2
GT3080002	60	0.3
GT3080003	10	0.2
GT3080004	35	0.4
GT3080005	50	0.1
GT3080006	100	0.1
GT3080007	30	0.2
GT3080008	35	0.1
GT3080009	25	4.2
GT3080010	70	0.2
GT3080011	40	0.2
GT3080012	10	0.9
Total Interruption Required Peak Day	7.1 GWh/Day	
Peak Day Total Network Demand	649 GWh/Day	

Offtake Reform

In addition to the above, bids for interruption will be considered in all zones, including GT3080013 GT3080014, GT3080015 and GT3080016 if it is beneficial to do so as a result of offtake reform.



NGN process

- Assess Bids
 - Assess bids against the cost of investment (capacity / pressure constraint) or the cost of securing offtake capacity
 - Determine the most economic solution – for “constrained” areas cost to purchase interruption vs. cost of investment in additional capacity – for “non-constrained” areas costs of purchasing interruption vs. cost of purchasing offtake capacity
 - Assessment in line with the published Interruptible Capacity Methodology Statement
 - Early bids desirable – may need to seek clarification or provide advice during the bid window.

Exercising Planned Interruption

- Process and arrangements remain unchanged
 - Early afternoon – generate next-day demand forecast and assess the need for interruption
 - May provide Shippers with an indication of the likelihood to invoke interruption (not mandatory)
 - Midnight – confirm next day demand forecast and quantity / location of any interruption required
 - Issue “Instruction to Interrupt from 06:00” to Shipper
 - Existing restoration process remains

Be Aware

- We will only contract for the amount of interruption we require
- Likely to be fewer interruptible sites – more likely to be interrupted
- Must be contactable and able to interrupt as instructed
- Consequences of failure to interrupt
 - Safety (inadequate pressure in the network)
 - Security (wide area loss of supply)
 - Economic (significant financial penalties under the Network Code)

Interruption Arrangements

Q & A

Overview of Tender Process

Anna Taylor – Pricing Manager

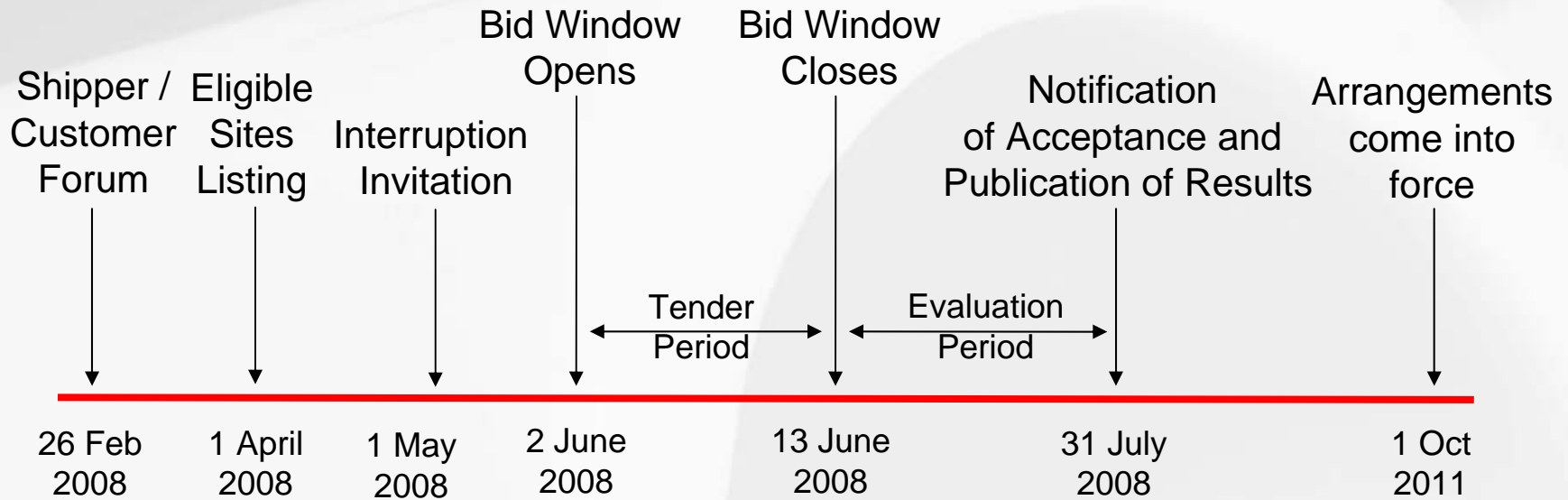
Tender Process

- Processes and Systems
- Timing of overall tender process
- Interruption Invitation
- Interruption Offers submitted
- Acceptance of successful Interruption Offers
- Publication of results

Processes and Systems

- Single point of contact for Shippers – xoserve
- Automated tender system for 2008 (testing starts March)
- See the “xoserve support for the Interruption Tender Process” presentation in your handouts

Timeline



Interruption Invitations – xoserve files

- Zone specific information provided:
 - Location Identity (Network and Zone)
 - Contract Start and End dates
 - Allowable Interruption Days
 - Aggregate Interruptible Capacity Required

Interruption Invitations – xoserve files cont

- Supply Point specific information provided:
 - Supply Point ID
 - Supply Point Nominated SOQ (daily offtake volume)
 - Number of Tranches allowed per Supply Point (max 9, each Tranche at least 200,000 Therms / 5,860 mWh)
 - DN Comments

Interruption Offers 1

- What the Interruption offer must specify for each Bid:
 - Xoserve Bid Number and Shipper Bid ID
 - Supply Point ID (as shown in the Invitation)
 - Supply Point Capacity Offered
 - (and Hourly Capacity if full site capacity not offered)
 - Interruptible Allowance (days)
 - Interruption Option price (£/kWh)
 - Interruption Exercise prices (£/kWh/day)
 - Offer Start Date and Offer End Date
 - Bid Link Number if applicable
 - Shipper Comment (if desired)

Interruption Offers 2

During the Bid Window;

- Offers can be submitted, withdrawn, or modified any time between 8am and 5pm on any working day within the Bid Window
- Offers must be made in line with the stipulations of the Invitation
- “Invalid” offers will be rejected by xoserve within 2 days
- Possible reasons for rejection:
 - Ineligible Supply Point
 - Doesn't comply with stipulations on linked bids
 - Doesn't comply with Interruptible Capacity Methodology Statement

Acceptance of Interruption Offers

- Offers will be accepted or rejected in line with the Interruptible Capacity Methodology Statement
- Shippers will be informed of which offers have and have not been accepted by 31 July, via xoserve
- If accepted, the customer becomes Interruptible for the interruption Period, in three years' time
- The Option Price is paid to the Shipper, monthly in arrears once the Interruption Period starts
- Any Exercise Price is paid to the Shipper, in the month after interruption occurs

Publication of Results

- Published, by 31 July, for each of our LDZs as a whole, and for each Zone where we accepted offers from at least 3 Shippers:
 - The number of Interruption Offers received
 - The number of Interruption Offers accepted by the DN
 - Aggregate Capacity for which Offers were received
 - Aggregate Capacity designated as Interruptible
 - Highest and lowest overall (Option and Exercise) Interruption prices submitted by Users
 - Highest and lowest overall (Option and Exercise) Interruption prices submitted by Users that were accepted by NGN

Overview of Tender Process

Q & A

Bidding

Anna Taylor – Pricing Manager

What to consider when making your bid

- This is an opportunity to potentially offset part of the cost of your gas bill
- In recent years the incidence of calling on Interruption has been very low. This can not be taken as an indicator of the likelihood of future interruption
- We would welcome any requests for discussion or assistance from Shippers and their customers before the bid process starts

What to consider when making your bid

Consumers:

Type A Interruptible consumer

- Will use alternative energy sources to continue operations whilst Interrupted

Type B Interruptible consumer

- Will temporarily cease production for the duration of the Interruption (could be just partial cessation of production if you have only offered part of your total capacity)

What to consider when making your bid

Option bid

Consider the level of additional fixed cost to your business of being Interruptible

- **(A)** - maintaining substitute boilers, a supply of alternative fuel etc.
- **(B)** - maintaining and practicing a "shut down" procedure for your business
- **(A)** and **(B)** - being ready to instigate Interruption Proceedings, 365 days a year

What to consider when making your bid

Exercise bid

Consider marginal cost of implementing your Interruption plans

- **(A)** - the incremental price of alternative fuel supplies relative to the gas not used, cost of overseeing the switch between fuel sources
- **(B)** - the lost production resulting from sending a workforce home for the day
- **(A)** and **(B)** - allowing for any perceived additional risk to your business, and your view of the likelihood of being Interrupted.

What to consider when making your bid

Shippers:

- Consider any guidance in the PIR report (Published Interruption Requirement to Shippers) when advising your customers
- This file will contain details of the level of Interruption required in the Zone, the numbers of days of Interruption required, and blocks requested, and any DN Comment

Example Bidding Scenarios

Network requirements

- applicable to all scenarios

- Zone 1
- Interruption Capacity required – 300,000 kWh/day
- Interruptible Days – 5 days
- Annualised equivalent cost of reinforcing to provide Firm Capacity - £10,000 per year

Scenario 1 – A Simple View

BIDS TENDERED

Customer ID	1	2	3	4
Interruptible Capacity	100,000	100,000	100,000	100,000
Interruptible Days	5	5	5	5
Option Price/annum	1,000	800	1,200	2000
Exercise Price/day	200	160	240	400

Customers 1, 2 and 3 would be accepted. Customer 4 would be rejected

Scenario 2 – Interrupt v Reinforce

BIDS TENDERED

Customer ID	1	2	3	4
Interruptible Capacity	100,000	100,000	100,000	100,000
Interruptible Days	5	5	5	5
Option Price/annum	2,500	3,500	4,200	5,000
Exercise Price/day	100	600	800	1,000

100% Exercised	3,000	6,500	8,200	10,000
40% Exercised	2,900	4,700	5,800	7,000

Even if not exercised at all, the minimum cost is £10,200 therefore the correct decision is to reinforce

Scenario 3 – Partial Reinforcement

Customer ID	1
Interruptible Capacity	100,000
Interruptible Days	5
Option Price/annum	2,500
Exercise Price/day	500

100% Exercised	5,000
40% Exercised	2,900

- Reinforce for 200,000 kWh, at £6,000 equivalent annual cost
- Purchase Interruption for the remaining 100,000 kWh
- Any bid valued at less than £4,000 for 100,000 kWh should be accepted

Scenario 4 – a complex scenario

BIDS TENDERED

Customer ID	1	2	3	4
Interruptible Capacity	200,000	100,000	300,000	100,000
Interruptible Days	5	5	4	1
Option Price/annum	1,000	2,000	500	500
Exercise Price/day	200	0	800	250

100% Exercised	2,000	2,000	2,500	750
40% Exercised	1,400	2,000	1,300	600

Linked and Variant bids

BIDS TENDERED

Customer ID	3	3	3	3
Bid Number	1001	1002	1003	1004
Bid Link Number	1	1		
Interruptible Capacity	200,000	200,000	50,000	50,000
Interruptible Days	5	3	3	1
Option Price/annum	1,000	1,000	500	500
Exercise Price/day	200	250	0	250

300,000 kWh total site capacity

Interruptible Customers 2008 - 2011

- Current LDZ System Charging Structure changes from October 2008
- Current Firm System Charges - 50:50 Capacity Commodity
- Current Interruptible - Commodity only
- New Firm System Charges - 95:5 Capacity Commodity
- New Interruptible – Commodity + 47.4% Capacity
- Financial outcome is broadly equivalent to current scenario
- Check your SOQ levels

Bidding

Q & A

Q & A Forum

Chris Gorman

Alex Wiseman

Tony Pearson

Robert Cameron-Higgs

Joanna Ferguson

Anna Taylor

Nikki Llewellyn

Martin Kew

Network Operations Director

Regulation Director

Network Planning Manager

Network Code Manager

Revenue Manager

Pricing Manager

Contracts Manager

Network Planner

Conclusions and Next Steps

- Tender commences in just over 3 months
- We would strongly encourage eligible sites to bid, especially in zones 1-12
- Bids should be based on the estimated value to you of interruption
- We will be holding further discussions with shippers over the coming months
- Don't hesitate to contact us with any queries – we will be happy to meet with you individually
- Shippers can speak to either their UK link representatives or their xoserve customer managers

NGN website - Interruption

For further information please visit our website
www.northerngasnetworks.co.uk

or you may email us at
interruption@northerngas.co.uk

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Close

Thank you for attending