2002/03 Gas distribution quality of supply report

March 2004

Summary

Quality of supply is a key priority in both the gas and electricity markets. Ofgem is continuing to develop this area of regulation to ensure an appropriate level of service is provided to consumers.

As part of the last gas distribution price control review, Ofgem developed the quality of supply framework for Transco. There are two main elements of this framework:

- Guaranteed and overall standards of performance which set minimum levels of service that gas transporters (GTs) are expected to achieve for individual consumers and consumers as a whole; and

- Output reporting and incentives. Transco is required to report annual performance on a number of key quality of supply indicators such as the number and duration of interruptions and mains replacement activity. In addition Ofgem is developing an incentive scheme on the number and duration of interruptions which will apply from April 2005.

Ofgem has made a commitment to publish an annual report on the quality of supply performance of gas transporters. This is the first such report which sets out:

- the standards of performance in place on GTs

- information on the number and duration of interruptions including:

    - the key output measures

    - Transco's estimate of 2002/03 performance

- information on mains replacement activity, and

- environmental performance.

The report also outlines the structure of the industry and provides company profiles of both Transco's networks and the other gas transporters operating in Great Britain. It follows the publication of the first electricity distribution quality of supply report in June 2003.

Responsibility for publishing performance against the guaranteed and overall standards lies with energywatch and its first report is due in the summer. In subsequent reports,

Ofgem intends to publish audited data on the number and duration of interruptions. The report for 2003/04 is due to be published by December 2004, and thereafter by December each year.

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1. Introduction

1.1. Suppliers trade gas in a competitive wholesale market, which is then transported to consumers' premises through gas transmission and distribution network infrastructure which is operated by gas transporters (GTs).

1.2. Ofgem made a commitment to publish an annual report on the quality of supply performance provided by GTs to its consumers in its Corporate Plan. The objectives of the report are:

- to explain the key mechanisms in place to protect consumers in terms of the quality of supply they receive from GTs; and
- to publish information on the main quality of supply indicators reported by Transco under the Regulatory Instructions and Guidance ("RIGs") requirements.

1.3. The report also outlines the structure of the industry and provides company profiles of both Transco's Distribution Networks ("Networks") and the other gas transporters operating in Great Britain.

1.4. The mechanisms that are in place to maintain and monitor the levels of service received are known as 'quality of supply' arrangements. There are two main elements of these arrangements:

- Standards of performance (which apply to all GTs) - Guaranteed standards of performance set service levels that must be met in each individual case. If a GT fails to meet the standard, it is obliged to pay the consumer a fixed level of compensation. Overall standards set out minimum average levels of performance for consumers as a whole.
- Outputs and incentives - As part of the last price control review[1], Ofgem introduced an outputs reporting framework for Transco. Under this framework, Transco is required to report performance to Ofgem on a number of key quality of supply indicators such as the number and duration of interruptions, as well as performance under

the mains replacement programme and on environmental outputs. The detailed definitions and guidance for reporting this information is set out in the RIGs[2]. Ofgem has also committed to introducing an incentive scheme on the number and duration of interruptions, similar to the scheme in place on electricity Distribution Network Operators. This is due to be implemented from April 2005.

Structure of the document

1.5. Section 2 outlines the structure of the gas distribution industry and sets out the geographical location of each of Transco's Networks. Section 3 explains the standards of performance arrangements. Section 4 discusses supply interruptions whilst section 5 covers mains replacement activity. Section 6 covers environmental reporting and policy. Additional information is contained in the appendices.

Future work

1.6. Ofgem intends to publish the 2003/2004 Gas Distribution Quality of Supply Report by December 2004. This will include the first full year of interruptions data which will have been subject to audit.

1.7. The intention is to make this report as meaningful and relevant as possible and Ofgem welcomes any comments or suggestions for the future format of the reports. Ofgem anticipates that over time the report will develop to encompass other issues relating to quality of supply.

1.8. All comments should be sent by the end of June 2004 to:

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[1] see Review of Transco's Price Control from 2002 – Final proposals, 56/01, September 2001,
[2]see Regulatory Instructions and Guidance for reporting outputs – version 2, 41/04, February 2004

2. Background

2.1. Gas is transported around Great Britain by the National Transmission System (NTS), which consists of more than 6,400km of high pressure pipeline. This is owned and operated by Transco. The NTS supplies over 140 bulk supply points, supplying gas to power stations, a few large industrial users and the distribution networks. These networks contain pipes operating at lower pressure which eventually supply final consumers.

2.2. Transco owns and operates eight networks which form the bulk of the gas distribution infrastructure in Great Britain. However, there are a number of smaller gas transporters that transport gas to a number of discrete sites in the country and have similar licence obligations to Transco. Transco's gas networks consist of approximately 273,000km of distribution mains and pipelines. Gas is transported on behalf of approximately 70 active gas shippers from the NTS to around 21 million domestic and business consumers and also to third party pipeline systems. Over 97% of consumers in Great Britain are currently connected to Transco's networks, which is illustrated in table 1 below.

2.3. Networks are responsible for the conveyance of gas through the lower pressure distribution system. In doing so they maintain responsibility for maintenance, development and safety of the majority of the infrastructure and can have a significant impact upon reliability of supply.

2.4. There is a duty in the GT licence in relation to quality of supply, to maintain the 'efficient and economic operation of its pipeline system'. The Health and Safety Executive (HSE) have introduced requirements under the Pipeline Safety Regulation[3] in relation to mains replacement activity and under the Gas Safety Regulations[4] in relation to escape of gas and appliance testing. These requirements impact on GTs':

[3] Pipeline Safety Regulations 1996 - Statutory Instrument 1996 No 825.
[4] Gas Safety (Management) Regulations 1996, S.I 551 and Gas Safety (Installations) Regulation 1998, S.I 2451

- ability to convey gas
- ability to restore supplies
- the level of planned interruptions, and
- operational guidelines.

Costs of gas distribution

2.5. Gas distribution costs each connected consumer approximately £87 annually and makes up approximately 29% of a domestic consumer's standard credit medium consumption gas bill (based on December 2003 figures).

2.6. Strengthening of the standards of performance or any improvements in interruption performance or environmental outputs may be associated with an increase in consumers' bill.

Network characteristics

2.7. Table 1 provides information on the number of consumers connected to each of Transco's networks, and also the aggregate number of consumers connected to other GT networks[5]. It also provides information on the length of network by material, pressure and diameter. Figures 2, 3 and 4 present the information in table 1 graphically.

2.8. The composition of the network by material will have an impact upon the levels of planned interruptions. This is due to the work being undertaken by Transco as part of the 30 year programme to replace iron mains with polyethylene pipe. This programme is explained further in section 5.

[5] This information has not been disaggregated due to the relative size of the other GT networks compared to Transco

Figure 1: Transco Distribution Networks

The maps in this report are based upon the Ordnance Survey map by Transco by permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office. © Crown copyright Transco 100019071

Table 1: Network Infrastructure and Consumer information

	Network	Sco	NoE	NW	E	WM	W&W	SoE	Lon	All T's	Total
customer type	**Domestic (Priority)**	64,689	66,482	102,827	130,338	95,376	84,815	125,411	70,034	8,363	748,335
	Domestic (Non-Priority)	1,571,546	2,320,938	2,477,164	3,604,034	1,782,658	2,183,111	3,690,691	2,116,388	436,031	20,182,561
	Domestic (Total)	1,636,235	2,387,420	2,579,991	3,734,372	1,878,034	2,267,926	3,816,102	2,186,422	444,394	20,930,896
	Non-Domestic	43,857	62,315	68,287	94,975	46,393	61,347	108,247	76,944	1,044	563,409
	CSEP's points at 31/12/2003	860	1089	1199	2,279	892	1257	1554	521	193	9,844
	Total Customers	1,680,952	2,450,824	2,649,477	3,831,626	1,925,319	2,330,530	3,925,903	2,263,887	445,438	21,503,956
network material (km)	**Cast/Spun Iron**	7,251	12,384	12,577	15,685	10,036	8,923	18,917	9,468	0	95,241
	Ductile Iron	990	3,552	1,714	3,007	1,335	2,500	1,950	1,945	0	16,993
	Polyethylene (PE)	12,379	16,369	17,235	24,701	10,171	16,061	22,320	9,882	5,490	134,608
	Steel	1,889	2,362	1,748	3,226	1,698	4,037	3,737	1,253	5	19,955
	Other	3	12	176	1	3	11	295	0	21	522
P ures (km)	**Local Transmission system (LTS)**	1301	1193	950	2470	925	2500	1696	717	4	11,757
	Intermediate Pressure (IP)	1,115	646	304	1,784	337	1,434	1,187	263	191	7,261
	Medium Pressure (MP)	3,500	3,595	3,231	6,152	3,049	3,976	6,354	1,785	855	32,497
	Low Pressure (LP)	17,897	30,438	29,913	38,682	19,856	26,121	39,676	20,500	4,464	227,547
diameter band (km)	**<=3 inch**	6770	9005	10848	11549	5069	8670	10899	3417	2,202	68,429
	>3 and <=5 inch	7322	14190	11722	19162	8938	11231	18673	10056	2,007	103,300
	>5 and <8 inch	5137	6938	6289	10547	5372	7099	11168	5330	1,191	59,071
	>= 8 and < 12 inch	2208	2709	2463	3211	2259	2845	3909	1738	85	21,427
	>=12 inch	1075	1837	2127	2150	1604	1685	2568	2003	13	15,062
	Totals (km)	22512	34679	33448	46619	23242	31530	47218	22544	5497	**267,290**

Note: The figures for "all other GT's" are estimates as the information has been provided for different periods. Also the source of the 'consumer type' disaggregation data is based on the categorisation information provided to GTs by shippers.

Key – Sco – Scotland, NoE – North of England, NW – North West, EoE – East of England, WM – West Midlands, W&W – Wales and the West, SoE – South of England, Lon - London

Figure 2 : composition of network infrastructure by material (%)

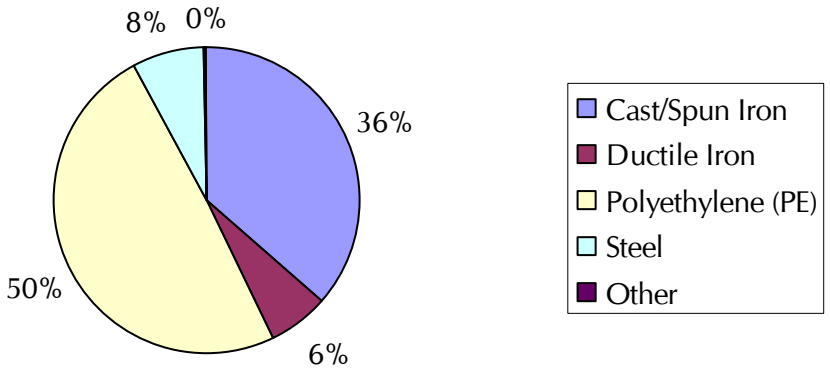


Figure 3 : composition of network infrastructure by diameter (%)

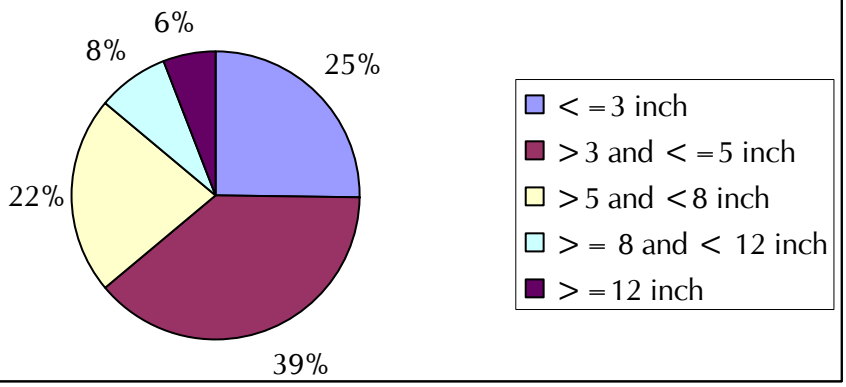
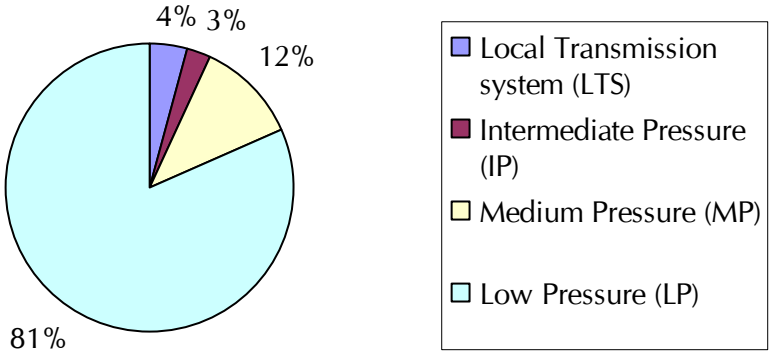


Figure 4 : composition of network infrastructure by pressure tier (%)



3. Guaranteed and overall standards of performance

3.1. The Gas Act (as amended) ("The Gas Act") provides for the Authority, with the consent of the Secretary of State for Trade and Industry, to make regulations for guaranteed standards of performance for GTs. The Gas Act also provides for the Authority to separately determine overall standards of performance.

3.2. Guaranteed standards of performance (GSOPs) set service levels that must be met in each individual case. If the licensee fails to meet the required level of service, it is required to pay a fixed level of compensation to the consumers affected. Overall standards of performance (OSOPs) set out minimum average levels of performance for consumers as a whole.

3.3. Ofgem has determined that it is appropriate that consumers on other GT networks are afforded the same protection with regard to standards of performance as consumers on Transco's Networks. In general, the same standards of performance therefore apply to both Transco and other GTs. The main difference is that performance against the OSOPs is measured over three years for other GTs rather than on an annual basis to account for their relative size. Transco also has additional standards to meet as operator of the national gas emergency helpline (OSOP1) and in dealing with national gas emergencies (OSOP7).

3.4. The guaranteed standards of performance are set out in the Gas (Standards of Performance) Regulations 2002 (as amended) ("the Regulations"), which came into force on 1 April 2002. This is available on the HMSO website, www.hmso.gov.uk. The overall standards of performance were determined in March 2002 and are available on Ofgem's website, www.ofgem.gov.uk.

Performance under the standards

Guaranteed standards

3.5. The guaranteed standards of performance set service levels that it is reasonable to expect companies to deliver in all cases, subject to certain exemptions. If GTs fail to deliver the specified standards of service, they are required to pay compensation to the consumers affected. Table 1 below summarises each of the standards[6], the specific exemptions and the levels of compensation payments. These are the minimum levels of compensation that GTs are required to pay for failure to meet the associated standard. GTs can make additional ex gratia payments where they consider it to be appropriate.

3.6. Appendix 2 explains the general exemptions from the standards.

[6] Further details of the GSOP and the OSOP can be found in the Ofgem document 'Standards of performance for gas transporters, Guidance for reporting – April 2003, 19/03'

Table 2: Guaranteed standards of performance for gas transporters

No	Standard	Definition	Payment	Specific Exemptions
GS1	Restoring domestic consumers' supplies after an unplanned interruption.	GTs should restore domestic consumers' supplies within 24 hours following unplanned interruptions on their networks. If a GT fails to achieve this, a fixed compensation payment will be paid to the consumer affected. Further compensation will be paid for each additional period of 24 hours until the consumer's supply is restored.	£30 Cap per consumer of £1000	• If the event originated on another GTs network, caused more than 50,000 consumers to be affected or was caused by an act or default of the consumer who would otherwise be due payment • If the event was caused by severe weather or other exceptional circumstances beyond the control of the GT and it had taken all reasonable steps to prevent the circumstances from occurring and from causing the interruption • For consumers connected to networks other than Transco, 3rd party and water ingress interruptions are excluded[7]
GS2	Reinstatement of consumers' premises	On completion of GT initiated work to re-lay service pipes on a consumer's premises, the premises will be reinstated within 10 working days. If the GT fails to achieve this, a fixed compensation payment will be made. Further compensation will be paid for each additional period of 5 working days until the premises are reinstated.	£50 (domestic) £100 (non-domestic)	• If the work is initiated by the consumer • If the consumer's own action led to the work being required
GS3	Making and keeping appointments	GTs should arrange a morning or afternoon appointment for consumer initiated work or a timed appointment if requested by the consumer. A fixed compensation payment will be made where the GTs fails to arrange an appointment or fail to attend without adequate prior notification to the consumer.	£20	• Each of the generic exemptions provided that the GT gives one day's notice • If the purpose of the visit is responding to information received in respect of a meter dispute or a pre-payment meter • If the circumstances that caused the breach prevented the GT giving a notice

[7] Under special arrangements with Ofgem, third party and water ingress interruptions on Transco's network attract the same levels of compensation as other types of interruption.

GS4	Alternative heating and cooking facilities.	If a priority consumer's gas supply is discontinued because of a planned interruption the GT shall provide alternative heating and cooking facilities within 4 hours. If the supply to consumer's premises or gas fittings at those premises is discontinued because of any other event (e.g. a gas emergency or unplanned interruption) where fewer than 250 consumers are affected, the GT shall provide alternative heating and cooking facilities within 4 hours of it becoming aware that the consumer has been affected. Where 250 or more consumers are affected, the GT shall provide alternative heating and cooking facilities within 8 hours of it becoming aware that the consumer has been affected.	£24	• If the consumer already has equivalent alternative heating or cooking facilities
GS5	Notifying consumers and making payments owed under the standards	GTs shall write to the relevant consumer (or shipper) and make payment within 20 working days. Where a GT fails to achieve this level of service, a fixed compensation payment will be made.	£20	• If there is a genuine dispute between the relevant consumer and the GT

3.7. It is for the GTs to consider the application of the standards of performance regulations and decide whether an exemption applies. Consumers may challenge the application of the exemptions and refer the issue to Ofgem for determination. In such cases Ofgem decides whether or not the GT has acted consistently with its legal obligations and whether the consumer is due compensation.

3.8. Under the Regulations, GTs may either pay compensation directly to a consumer or pay compensation to the appropriate gas shipper for onward transmission to the appropriate gas supplier and consumer. The Regulations specify that payments under the GS should automatically be paid by the GT.

3.9. GTs are required to report on the operation of the compensation scheme each year. energywatch have the responsibility to publish performance information under the guaranteed standards, including the number and value of the payments made.

Overall standards

3.10. Overall standards set the minimum levels of performance that GTs are required to achieve each year. Transco is required to meet these levels of performance on both a network and overall basis. A description of these standards is provided in Table 3.

3.11. There are no obligations for GTs to make compensation payments if they fail to meet the target levels of performance under the overall standards. There are however, powers set out in The Gas Act to penalise GTs if they fail to meet the required performance levels.

3.12. Under the Regulations, GTs are required to report on their performance against the overall standards. energywatch intends to publish this information in conjunction with information on performance under the guaranteed standards in the summer.

Table 3: Overall standards of performance for gas transporters

No	Standard	Definition	Target
OS1	Telephone calls (Transco only)	Telephone calls to the national emergency number (which operates 24 hours a day), the dedicated meter enquiry line and meter point reference number helpline (during the hours, which they operate) will be answered by an individual within 30 seconds of the call being connected	90%
OS2	Notification of planned supply interruptions	For planned maintenance or replacement work, which involves interruption of the gas supply, the GT will provide written notification of the need for the interruption at least 5 working days in advance of starting the work. The notice need not specify the date and time of the interruption. Its purpose is to inform consumers that an interruption may be required as a result of planned activities.	95%
OS3	Informing consumers of when they are due to be reconnected	For unplanned supply interruptions or gas emergencies which are expected to last over 24 hours the GT or its contractor shall: (a) Where up to 250 consumers are affected, notify individual consumers that they have been interrupted and the expected programme for reconnection (including the expected date of reconnection) within 12 hours of it having knowledge of the interruption; (b) Where 250 or more consumers are affected, provide public announcements (for example, using local public address broadcasts and local radio) throughout the area affected describing the expected programme for reconnection (including the expected date of reconnection) within 12 hours of it having knowledge of the interruption; and (c) Provide a progress report and revised information on the expected date of reconnection after each succeeding period of 24 hours from the original announcement or notification	97% 97% 97%
OS4	Acknowledging correspondence	GTs shall issue a written or verbal response to: (a) Correspondence relating to a provision of a connection to its system within 5 working days of receipt (b) Written complaints relating to its licensable activities within 5 working days of receipt (Where this is not a substantive response it will indicate when a substantive response may be expected)	90% 90%
OS5	Visits	Where a visit is appropriate following receipt of written correspondence or a complaint under standard 4 the GT will: a) Make contact within 2 working days of receipt of the correspondence or complaint; and b) Make the visit within 5 working days (unless the consumer agrees a later date) of making an appointment, where the consumer needs to be present, and in any other case of making contact	93% 93%
OS6	Substantive response to complaints	The GT shall dispatch a substantive response to any oral or written complaint relating to its licensable activities within 10 working days other than in exceptional circumstances. (This will include an indication of any further work the GT considers to be required, if appropriate)	90%
OS7	Gas emergencies (Transco only)	Where the GT receives a report of a gas escape or other gas emergency, including a significant spillage of carbon monoxide or other hazardous situations, it will attend as quickly as possible within the following timescales: a) All uncontrolled gas escapes or uncontrolled gas emergencies within 1 hour; and b) All controlled gas escapes or other controlled gas emergencies within 2 hours	97% 97%

Provision of information to consumers

3.13. Under the Regulations, GTs are required to prepare and update statements setting out their standards of performance and the associated levels of compensation. These statements are provided annually to suppliers who are required to pass them on to consumers. Transco publish the standards of performance requirements, know as the Notice of Rights, on their website at www.transco.uk.com.

4. Interruptions

4.1. In the final proposals for the Transco price control review published in September 2001[8], Ofgem committed to introducing an incentive scheme on interruptions on Transco's networks. Ofgem proposed that up to two per cent of price control revenue would be linked to the delivery of certain outputs, specifically in relation to the number and duration of interruptions, with annual rewards and penalties dependant on performance relative to targets. Ofgem is currently working on this project and it is intended that this scheme will be introduced in April 2005.

4.2. From April 2002, Transco has been required to record and report specified information to Ofgem as part of the outputs reporting framework, as directed under the RIGs. The RIGs established a robust framework for reporting outputs across networks on a consistent basis. The RIGs require Transco to report interruptions data disaggregated by network, cause and consumer type from April 2003.

4.3. Transco is required to report the following key interruption measures:

- the number of non-contractual supply interruptions to consumers from all planned and unplanned activities per 100 consumers per year; and
- the average number of consumer minutes lost per interruption, resulting from non-contractual supply interruptions to consumers

4.4. This information should be recorded in accordance with the RIGs and is reported quarterly to Ofgem for the reporting years 2003/04 to 2005/06 and thereafter on a yearly basis. Transco has reported three quarters' data for 2003/04 to date and is due to report the final quarter's data to Ofgem in April 2004. This data will provide Ofgem with an initial understanding of the number of interruptions experienced by consumers, what caused them and their duration.

[8] Review of Transco's Price Control from 2002 – Final proposals, September 2001

4.5. At present it is not practicable to set the minimum levels of accuracy for reporting interruptions data given that reporting systems were only in place from April 2003. Ofgem is conducting an audit of Transco's processes and the initial conclusions in May 2004 will enable accuracy targets to be set going forward. It will also enable Ofgem to determine targets for the number and duration of interruptions, against which rewards and penalties will be determined in the incentive mechanism. The audit process, once established, will be carried out on an annual basis. Ofgem is due to publish its initial consultation on the interruptions scheme in during the first quarter of 2004/05.

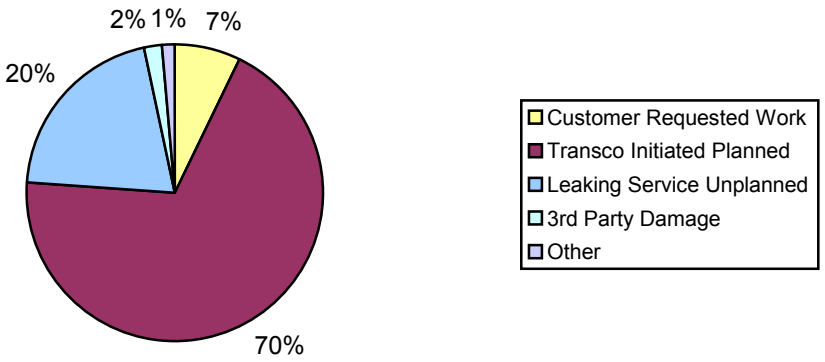
4.6. It is intended that the incentive scheme will set targets for the number and duration of interruptions against which each network may be financially penalised or rewarded. Ofgem recognises that some interruptions are outside the networks' control and may therefore exclude them from, or treat them differently within the incentive scheme mechanism.

4.7. In determining the structure of the incentive scheme Ofgem will consult with all relevant stakeholders throughout the process and the relevant papers will be published on the Ofgem website. The consultation will take into account the scope for improvement, consumer's willingness to pay for enhanced service and interactions with Transco's safety obligations.

4.8. Transco was not required to report the number and duration of interruptions in 2002/03 using the RIGs definitions. However, it estimates that the overall number of non-contractual interruptions per annum is less than 500,000. The average duration of these interruptions is not known.

4.9. Figure 5 shows Transco's estimates of the proportion of non contractual interruptions by cause for 2002/03.

Figure 5 : Transco's Estimate of the Proportion of Non-Contractual Interruptions by Cause



5. Mains Replacement and the HSE

5.1. There are requirements on GTs under the Gas Safety Regulations, in relation to the escape of gas and appliance testing, and under the Pipeline Safety Regulation, on mains replacement activity, enforced by the Health and Safety Executive (HSE). These requirements impact upon their:

- ability to convey gas
- ability to restore supplies
- the level of planned interruptions, and
- operational guidelines.

5.2. Transco, as the major gas transporter in the UK, operates over 260,000km of distribution gas mains and approximately 21 million gas service connections to individual properties. Over 40% of these mains are constructed from iron, most of which was laid in the first half of the 20th century. The principal risk associated with the gas distribution system is the potential to cause harm to people and damage to property through uncontrolled gas release into properties and, more rarely, subsequent explosions. The main causes of these occurrences have been found to be the sudden failure, either by fracture or corrosion induced, of iron pipes.

5.3. Since the early 1970s Transco has undertaken a series of asset replacement programmes, which have principally targeted the replacement of iron gas mains with polyethylene (PE) pipes. The earlier programmes concentrated on replacing the smaller diameter (and hence weaker beam strength) 3 inch & 4 inch diameter pipes, as well as other larger pipes where an escape of gas was more likely to enter property due their higher operating pressure, proximity to different types of buildings, or the nature of the local ground conditions. Later replacement programmes have targeted mains using statistical modelling including additional factors that research has shown to influence risk.

5.4. These targeted programmes have contributed to a significant decrease in the number of incidents which have resulted in people being harmed or damage to

property. However the fracture rate per unit length of the remaining iron main population has not decreased.

5.5. In 2001, following discussions with Ofgem and Transco, the Health and Safety Executive (HSE) adopted a more precautionary approach to the replacement of iron mains located within 30 metres of property. The HSE considered that it was *"realistic and practicable for Transco to speed up its annual rate of mains replacement over the next 5 years so as to be in a position to complete replacement of all remaining 'at risk' iron mains within a total of 30 years at most."*[9]

5.6. In addition, Transco intends to replace a smaller amount of non-iron mains, such as steel and asbestos. This is necessary to ensure Transco maintains its overall Health and Safety obligations where the pipe's reliability falls below minimum requirements.

5.7. During the programme, metallic service pipes connecting the main to the consumer's property will normally also be replaced with PE pipe.

5.8. At the end of the iron mains replacement programme, the vast majority of below ground service pipes will be constructed from PE.

5.9. One of the consequences of this replacement programme is that within the next 30 years, a significant number of gas consumers will experience at least one interruption while the gas mains they are connected to are replaced.

5.10. Some consumers will be interrupted more than once to enable their service pipes to be renewed in advance of the gas main replacement works.

5.11. In order to restore the gas supply, Transco is required (unlike electricity interruptions) to visit and gain access to each affected consumer's premises. This is a safety requirement and includes a safety check of the consumer's gas installation prior to re-commissioning of supplies. This affects the length of the interruption period particularly where access to premises cannot be gained or where larger numbers of consumers need to be visited. These factors can impact upon Transco's ability to restore gas supplies.

[9] The Health And Safety Executive's Enforcement Policy For The Replacement Of Iron Gas Mains

5.12. Under the RIGs, interruptions as a result of HSE guidelines will form part of the "Transco Initiated Planned" category. This category as a whole accounts for approximately 70% of consumer interruptions and therefore safety obligations will have an effect on Transco's interruption performance.

Table 6 : All Networks Mains Replacement in 2002/03

Mains Decommissioned (Internal Diameter)	Mains Decommissioned (km)	Replacement Mains Installed (External Diameter mm)	Replacement Mains Installed (km)
2-3″	351	<=75mm	461
4-5″	679	>75-125mm	593
6-7″	475	>125-180mm	404
8-9″	425	>180-250mm	347
10-12″	452	>250-355mm	339
>12″	255	>355mm	151

6. Environmental issues

6.1. Transco is required to submit an annual environmental report for the NTS and its Networks. These measures are set out in the RIGs and include Methane emissions, carbon dioxide (CO_2) emissions, nitrous oxide (NOx) emissions and loss of gas containment. The environmental performance of the Transco's networks is an important area for both consumers and other interested parties.

6.2. One of the most important direct environmental impacts is the emission of greenhouse gases in the form of:

- carbon dioxide emissions from the combustion of gas in compression stations on Transco's networks
- methane lost from pipelines[10], and
- small amounts of NOx arising from gas combustion.

6.3. These emissions amount to approximately 1 per cent of national greenhouse gas emissions.

6.4. In addition, the combustion of gas in compressor stations results in the emission of oxides of nitrogen and a small amount of particulates, which have an impact on human health and contribute to the formation of other pollutants.

6.5. Other environmental issues may include amenity issues, impact on wildlife and archaeology, impact on ground and surface waters, waste management and disruption from street works.

Benefits of Gas

6.6. The use of gas to displace other fuels has a number of environmental benefits. They have lower CO_2 emissions than other fossil fuels and almost no sulphur dioxide (SO_2) emissions. They emit lower rates of nitrogen oxides (NOx) and particles than other combustion-based processes and have no radioactive discharges or waste. Direct comparison depends on appliances used and effective energy delivered.

Monitoring environmental performance

6.7. Under special licence conditions 35 and 36, Transco is required to submit an annual environmental report for the NTS and its Networks following the guidelines set down in the RIGs. The reports include information on a number of pre-specified environmental performance measures and accompanying narrative. These include reports on:

- methane emissions from plant and leakage from pipes
- CO_2 and NOx emissions from compression stations
- loss of containment

6.8. The information reported by Transco is set out below:

Table 7: Methane Emitted From pipe networks due to leakage in 2002/03

Tonnes of methane	MP	LP
Scotland	1,677	17,568
North of England	3,300	28,707
North West	1,730	30,547
East of England	4,497	36,501
West Midlands	2,058	24,428
Wales & The West	3,243	29,314
South of England	3,277	46,355
London	795	22,958
Total Networks	20,577	236,378

6.9. Transco are also required to submit emission outputs on the NTS, as part of the annual environmental report. The information is set out in the tables below.

Table 8: Methane Emitted From Plant in 2002/03

	Kg methane per GWh
NTS	1.21

[10] Natural gas consists almost entirely of methane, a greenhouse gas 21 times more potent per tonne than CO_2.

Table 9: CO_2 Emitted by gas powered compressors in 2002/03

	kg CO_2 per GWh
NTS	1,172

Table 10: NOx Emitted by gas powered compressors in 2002/03

	Kg NO_X per GWh
NTS	2.40

6.10. There were no reported losses of containment (i.e. incidents involving the release of gas reported under COMAH) in 2002/03.

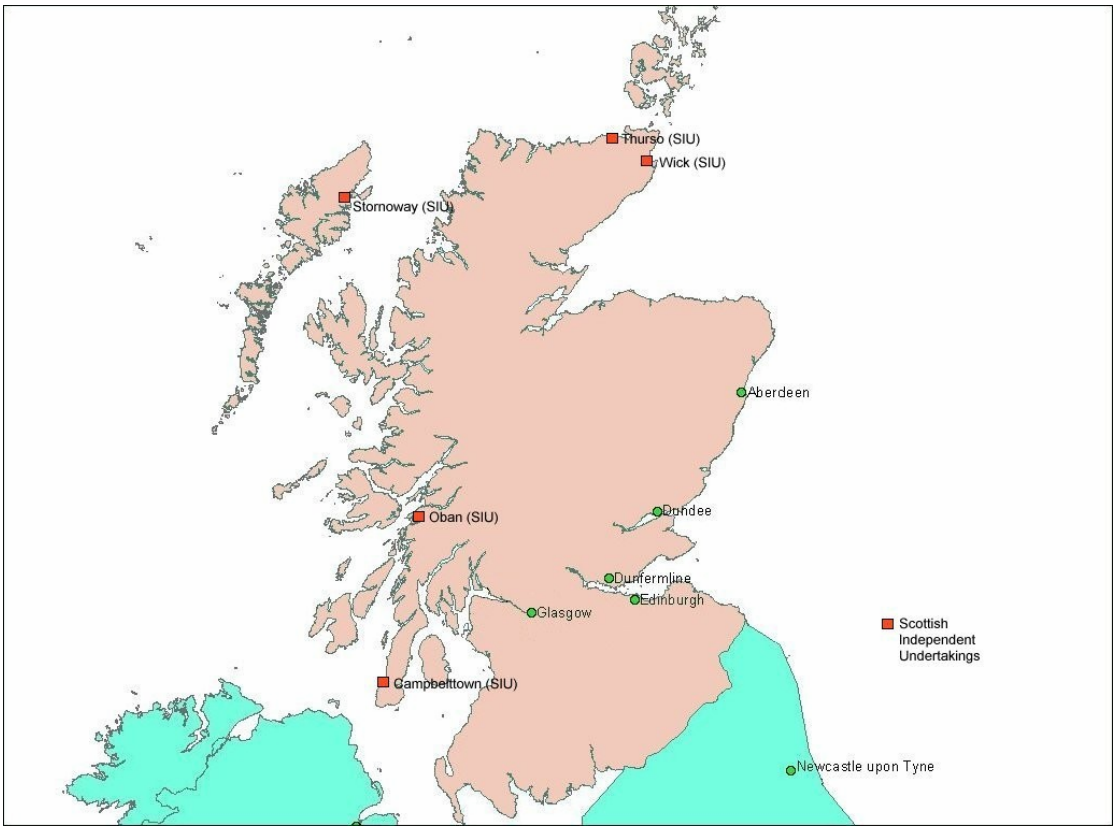
Appendix 1 – Gas transporter and network profiles

This appendix describes the characteristics of Transco's networks in greater detail. It also provides a summary of each independent gas transporter.

Scotland Network

The Scotland Network develops, maintains and operates Transco's gas distribution network within Scotland's 78,000 square kilometres. It contains large, geographically remote and rural areas, with most of the gas supply area concentrated within the Glasgow-Edinburgh corridor or on the East coast. Five remote communities comprising 8,000 consumers in the North and West are supplied via independent networks using LNG or LPG.

The Network supplies half of Scotland's energy needs to its 1.7 million gas consumers (75% of all Scottish households) and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 23,800km in length.


Thurso (SIU)
Wick (SIU)
Stornoway (SIU)
Aberdeen
Dundee
Oban (SIU)
Dunfermline
Edinburgh
Glasgow
Scottish
Independent
Undertakings
Campbeltown (SIU)
Newcastle upon Tyne

North of England Network

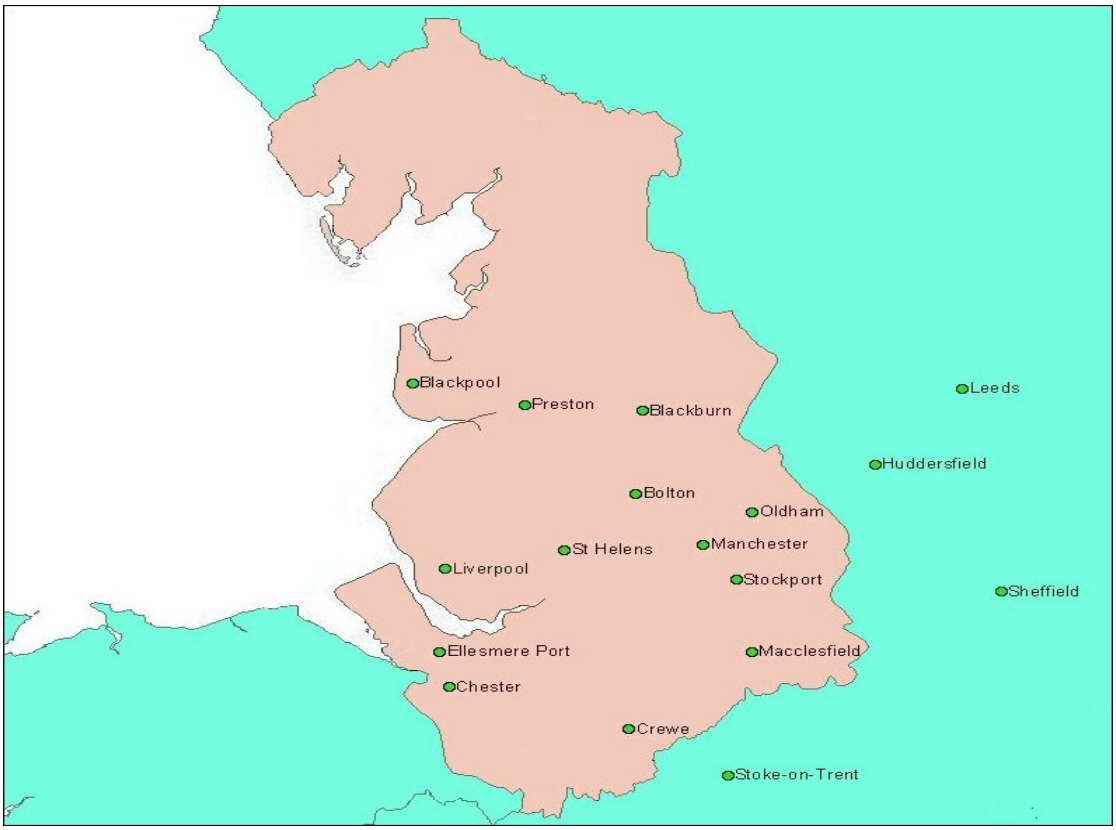
The North of England Network develops, maintains and operates Transco's gas distribution network within the 26,660 square kilometres of the North and North East of England, comprising the North and Yorkshire National Transmission System Exit Zones. The Network covers highly diverse terrain ranging from Pennine moorland through rich agricultural areas in East Yorkshire to high-density urban centres around Newcastle-upon-Tyne and Leeds/Bradford. It stretches North-South from the Scottish border to the Humber and East–West from Cumbria to South Shields and from the East Coast to the Lancashire border further South.

The North of England Network delivers gas to over 2.4 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 35,850km in length.

North West Network

The North West Network develops, maintains and operates Transco's gas distribution network within over 10,000 square kilometres comprising most of the Western side of Northern England. It covers highly diverse terrain ranging from the rural vastness of the Lake District to the high-density industrial landscapes of Greater Manchester and Merseyside. It stretches North-South from Windermere to Crewe and East–West from Oldham to Blackpool.

The North West Network delivers gas to over 2.6 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 34,390km in length.



East of England Network

The East of England Network develops, maintains and operates Transco's gas distribution network within over 36,300 square kilometres of Central and Eastern England. It comprises the East Anglia and East Midlands National Transmission System Exit Zones and covers highly diverse terrain, ranging from industrial South Yorkshire through rural Fenland to high-density populations in Outer London. It stretches North-South from Sheffield to Enfield and East-West from Lowestoft to Burton-on-Trent, encompassing cities such as Leicester, Nottingham and Derby as well as London commuter belt in the Home Counties.

The East of England Network delivers gas to over 3.8 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 49,080km in length.

West Midlands Network

The West Midlands Network develops, maintains and operates Transco's gas distribution network within over 11,300 square kilometres of Central England. It covers the high density industrial landscapes of Birmingham and the Black Country together with the more rural counties of the Welsh Marches and stretches North-South from Stoke-on-Trent to Stratford-upon-Avon and East–West from Hinckley to Oswestry.

The West Midlands Network delivers gas to over 1.9 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 24,160km in length.

Wales and the West Network

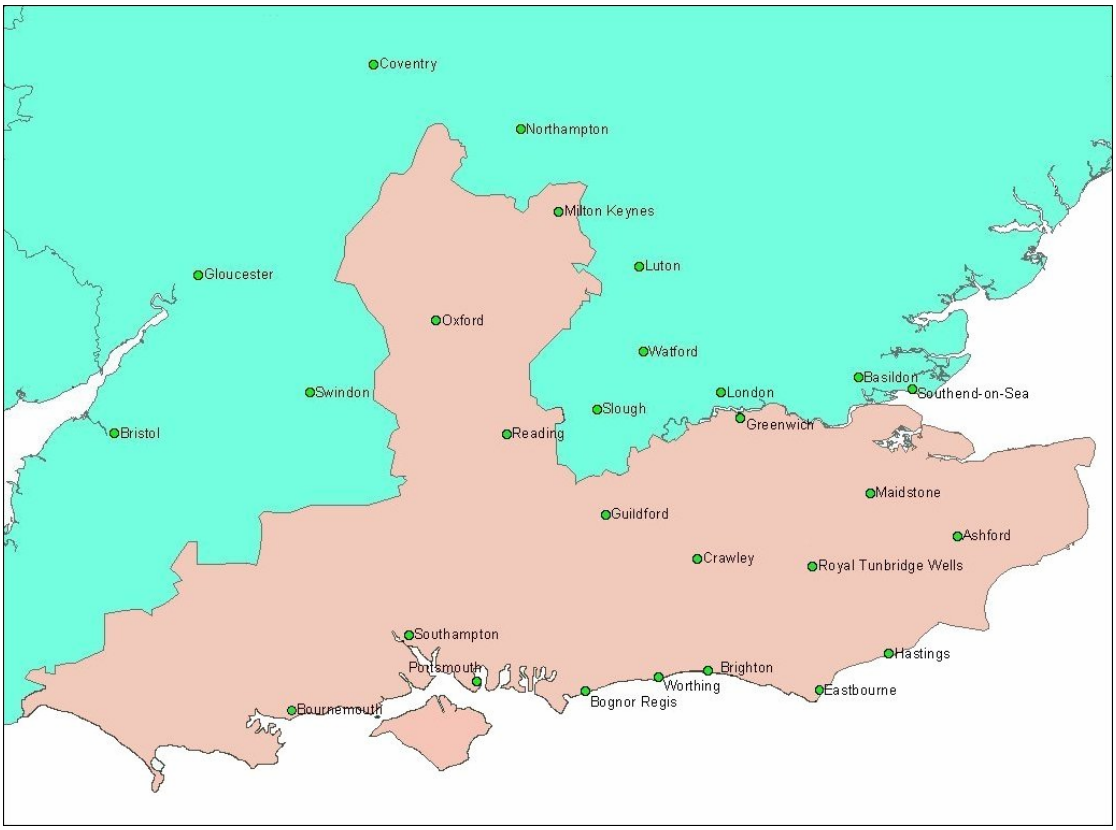
The Wales and The West Network develops, maintains and operates Transco's gas distribution network within South Western England and all of Wales, a total area of 33,000 square kilometres. It comprises the South West, Wales North and Wales South National Transmission System Exit Zones and stretches North-South from the Dee estuary to Lands End and East–West from Cheltenham to the Irish Sea. The Network covers geographically remote areas and, bar industrial South Wales and the Bristol area, is largely rural in nature.

The Wales and The West Network delivers gas to over 2.3 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 34,030km in length.

South of England Network

The South of England Network develops, maintains and operates the gas distribution network within over 23,700 square kilometres of Central Southern England. The Network comprises the South and South East National Transmission System Exit Zones. It stretches from Banbury in the North to Lyme Regis in the West and Margate in the East, encompassing Metropolitan London south of the Thames.

The Network covers terrain ranging from the Isle of Wight, through the extremely rural Salisbury Plain, to high-density urban populations in South London. It delivers gas over 3.9 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 48,900km in length.



London Network

Transco's London Network develops, maintains and operates the gas distribution network within a relatively small but densely populated area of 2,900 square kilometres around London. It covers the predominately urban and suburban area lying to the North of the river Thames and stretching East-West from Southend-on-Sea to Maidenhead.

The London Network delivers gas to over 2.2 million consumers and to distribution networks belonging to independent gas transporters through a 'mains' and pipelines network over 23,260km in length.

Company Profiles[11]

E S Pipelines Ltd is owned by East Surrey Holdings Plc whose other companies include Sutton & East Surrey Water Plc and Phoenix Natural Gas (Belfast). It is a licensed Gas Transporter, which owns and operates over 110 km of natural gas mains networks throughout Great Britain operating at all the pressure tiers, from low-pressure up to high-pressure connections. E S Pipelines' networks deliver gas to a wide range of consumers from large industrial users to domestic premises, most of which were developed as infill projects that have extended the national gas network to areas of the country which previously did not have the benefit of a gas connection.

E S P Networks Ltd is owned by East Surrey Holdings Plc whose other companies include Sutton & East Surrey Water Plc and Phoenix Natural Gas (Belfast). It is a licensed Gas Transporter, which owns and operates over 88 km of natural gas mains networks predominantly in the West of Great Britain operating mainly at low-pressure but also with some medium-pressure connections. E S P Networks' delivers gas to mainly domestic premises, installed as part of new housing developments, however it also has connections to some small commercial premises.

[11] The company profiles were provided by the IGTs. The use of the company logo's does not indicate that the content of the report in anyway reflects the views or the opinions of these companies. The views expressed within the company profiles are not necessary endorsed by Ofgem.

E S P Pipelines Ltd is owned by East Surrey Holdings Plc whose other companies include Sutton & East Surrey Water Plc and Phoenix Natural Gas (Belfast). It is a licensed Gas Transporter, which owns and operates over 10 km of natural gas mains networks predominantly in the West of Great Britain operating mainly at low-pressure but also with some medium-pressure connections. E S P Pipelines' delivers gas to mainly domestic premises, installed as part of new housing developments. However it also has connections to some small commercial premises.

The Gas Transportation Company, part of the International Energy Group, owns, maintains and operates more than 2500 natural gas distribution networks across England, Scotland and Wales.

It transports gas to over 100,000 consumers through a mains network of more than 800km and its annualised volume of gas is more than 2.4 billion kilowatt hours.

As well as domestic connections across England, Scotland and Wales, GTC has installed gas networks for a number of notable commercial developments including Lotus Cars, Bristol Airport, Avon Cosmetics, Papworth Hospital, Green Park Reading, Cambridge Research Park and Granta Park Cambridge, United Milk at Westbury, Dartmoor Prison, Bournemouth Airport, a Warners Leisure complex at Cribbs Causeway, Bristol and 30 Glasshouse nurseries on one network in Essex.

The Gas Transportation Company Pipelines Limited, part of the International Energy Group, owns, maintains and operates one natural gas distribution network in South Wales. It transports gas to 100 domestic consumers currently.

Mowlem Energy Limited is a subsidiary of John Mowlem Plc, it owns maintains and operates gas networks under a Public Gas Transporter Licence covering Great Britain.

The main area of operation is Scotland and the North West of England with a growing number of projects in the Midlands. It delivers gas to over 100 networks and potentially 6000 domestic consumers.

SSE Pipelines Limited is a subsidiary of Scottish and Southern Energy plc (SSE). SSE has interests throughout the energy supply chain in Great Britain. In electricity, it has subsidiaries operating in generation, transmission, distribution and supply to end consumers. In gas, SSE is involved in transportation, storage and supply to end consumers.

SSE Pipelines Limited is SSE's licensed gas transporter business. It owns and operates gas mains and services throughout Great Britain and has a mixture of domestic, commercial and industrial premises connected to its networks.

Utility Grid Installations Ltd (UGI) is a licensed gas transporter, constructing owning and operating gas networks to domestic, industrial and commercial developments across the United Kingdom.

UGI is licensed by the Health and Safety Executive and all networks installed comply with the Gas industry stringent codes of practice.

Independent Pipelines Limited, part of Inexus Group Holdings Limited owns maintains and operates gas distribution networks throughout the UK.

It delivers gas to almost 200,000 consumers. The majority of premises are on housing developments constructed within the last 10 years.

Quadrant Pipelines Limited, formerly East Midlands Pipelines Limited is now part of Inexus Group Holdings Limited. Quadrant Pipelines owns, maintains and operates gas distribution networks mainly in the East Midlands Region.

It delivers gas to almost 10,000 consumers. The majority of premises are on housing developments constructed within the last 5 years.

SP Gas was established in the year 1997 and is a 100% subsidiary of the ScottishPower Group. It currently operates around 600 networks throughout the UK serving 30,000 consumers through 617 km of pipe operating at all pressure tiers. The consumer base is varied, ranging from domestic housing estates through industrial and commercial consumers to a CHP plant served by a high pressure pipeline. SP Gas is a rapidly growing business and its portfolio is increasing at a rate of 15 new gas networks per month, which represents an increase of over 10,000 consumers per annum.

British Gas Connections Limited

British Gas Connections Limited, a licensed gas transporter, is part of the Centrica Group. It owns, maintains and operates around 4000 local gas networks throughout mainland Great Britain conveying gas to over 100 thousand households. British Gas Connections commenced operations in 1997 and is focused on competing in the competitive gas connections and transportation markets based on its track record of delivering excellent consumer service.

Appendix 2 – Generic exemptions for the Guaranteed standards of performance

2.1 This appendix sets out the generic exemptions from the Guaranteed Standards of Performance.[12]

2.2 The exemptions specific to each standard are discussed above. There are also certain general exemptions that apply to all the guaranteed standards, subject to any qualification for a specific standard. These are:

- if the consumer informs the GT before the deadline that he does not require the GT to take any action or further action in relation to the matter;
- if the consumer agrees that an action already undertaken by the GT meets the requirement of the standard. Where the GT has promised to take further action, that action must be taken without undue delay if this exemption is to be invoked;
- if, in order to meet the standard, information is required to be given by the consumer to the GT, and the consumer either sends the information to an address other than the one the GT has indicated or, in the case of the appointment standard, telephones with the information outside reasonable hours as notified by the GT;and
- in instances when the GT took all reasonable steps to meet the standard but it was not practicable to comply with its requirements because of:
  - severe weather conditions;
  - industrial action by the employees of the GT;
  - an action or default of someone other than an officer of, or agent of, the relevant GT;
  - the inability of the GT to obtain access to any premises;
  - the likelihood that the GT would break the law if it complied; or

- other exceptional circumstances beyond the control of the GT;

2.3 In order for these generic exemptions to apply, the circumstances must be both exceptional and beyond the GT's control. It must also take all such steps as it was reasonable for it to take both to prevent the circumstances from occurring and to prevent them from causing a breach of the relevant standard.

2.4 It is important to note that if an exemption is invoked, the GT must be able to demonstrate that the circumstances giving rise to the exemption applied in each relevant case. Whilst a GT may have been prevented from delivering a service in the generality of cases, for example because of severe weather, it needs to be prepared to deliver the required service where the circumstances do not prevent it from doing so:

- if it was reasonable to regard information provided by the consumer as frivolous or vexatious;
- if the consumer has committed an offence under the Gas Act[13]. This includes acts such as tampering with meters and damaging any gas fittings or service pipes for the supply of gas to the consumer's premises; and
- the GT has disconnected the consumer's premises or refused to connect them exercising a power under schedule 2B to the Act

[12] As set out in Regulation 8 of SI No. 475 (as amended)
[13] Schedule 2B, Paragraph 10 or 11