

RIO-GD1 Annual Report 2013-14

Annual report

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Overview

RIO-GD1 is the first gas distribution price control, along with its transmission equivalent, that uses the RIO price control model. RIO stands for revenue = incentives + innovation + outputs.

This price control began on 1 April 2013 and runs for eight years, to 2021.

This report is for all stakeholders and reviews the progress companies have made in the first year, and their forecast for the remainder of the eight year period. It compares their performance with the outputs they signed up to and the costs they have incurred against allowed revenues.

Context

Gas is an important part of the energy mix and many credible and robust scenarios see it playing a major role for at least the medium term. Gas distribution networks, therefore, need to be managed effectively and efficiently to ensure gas remains available through this price period and beyond.

Each of the eight gas distribution networks (GDNs) operating in Great Britain are monopoly providers of gas distribution services. We use our regulatory powers to protect against monopoly abuse and to make a positive difference for present and future energy consumers.

In the context of the GDNs we help to achieve this by setting the revenue which they are allowed to recover from their customers in return for delivering a range of defined outputs that represent good value for money.

We set these outputs to ensure the GDNs:

- maintain a safe and reliable network
- make a positive contribution to sustainability and protect the environment
- provide connections to supply new consumers and support the connection of new gas entry points into the network
- meet their social obligations, and
- provide an agreed standard of service to consumers and other stakeholders.

Associated documents

[RIIO-GD1 Final Proposals - Overview](#)

[RIIO-GD1 Final Proposals – Outputs and Incentives](#)

[RIIO-GD1 Final Proposals – Finance and Uncertainty](#)

[RIIO-GD1 Final Proposals – Cost Efficiency](#)

[RIIO GD1 Financial Model \(Annual Iteration Processes for 2014-15 and 2015-16\)](#)

[GDPCR1 End of Period Review](#)

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Executive Summary

In December 2012 we published our final proposals on the revenues the gas distribution companies could recover and the outputs they would deliver for the eight year period commencing 1 April 2013.

Gas distribution networks (GDNs) were given an allowance of £16.8 billion for the eight year period to deliver a range of safety, reliability, environmental, new connections, social obligations and customer outputs.

Stakeholders are currently receiving a level of service and performance broadly in line with expectations. The companies forecast they will maintain this through the remainder of the price control period. Customer service is strong in Northern Gas Networks (NGN), Scotia Gas Networks (SGN) and Wales and West Utilities (WWU), with each winning independent customer service awards.

There are a few specific outputs within the safety and reliability output commitments that need attention because the required level in the first year hasn't been met or is forecast to fall short over the RIIO-GD1 period.

For **safety**, all outputs are being achieved other than repair risk for some GDNs. Repair risk is the annual safety impact of gas escapes that are not severe enough to justify emergency action and are scheduled into a non-emergency work programme. Four networks have not met this annual output in the first year – three National Grid Gas Distribution (NGGD) GDNs (North London, North West and West Midlands) and WWU.

In terms of **reliability**, the availability of the distribution network was 99.997%. However, NGGD, NGN and SGN are finding it difficult to meet one or more of the four reliability output measures relating to supply interruptions which they have committed to deliver. We are working with these companies to ensure these outputs are achieved in a way that does not adversely affect consumers.

NGGD have informed us of an error in their submitted interruption data due to an internal data management issue. They have revised their submitted information for 2012-13 and 2013-14 and will submit their first forecast in the next annual submission. NGGD are investigating the causes and consequences of the error. When they have finished their investigation we will consider any further steps that may be required.

Companies have all embarked on a plan to decommission gas holders to remove the risk from assets which are no longer required. NGGD have transferred the costs of undertaking demolition to a related partner company, and we are monitoring their reporting to ensure compliance.

Survey data shows **customer** satisfaction continued to improve year-on-year. All companies are beating complaints targets. Although NGGD are improving, they are not meeting some of the customer survey targets and will be penalised through the incentive mechanism.

Companies demonstrated good stakeholder engagement, particularly around issues involving fuel poverty and consumer vulnerability, but the Ofgem panel has encouraged GDNs to improve in other areas of stakeholder engagement. NGGD achieved the highest score for stakeholder engagement.

Under the **social obligation** output, 14,764 fuel poor households were connected to the network and companies predict they will connect more than the required 77,450 households by the end of RIIO-GD1. SGN and WWU consider they have an opportunity to increase the number of fuel poor connections above RIIO-GD1 output levels and we are taking this into account in the current fuel poor extension scheme review.

A primary output for **environment** is the reduction of transportation losses (shrinkage). All companies met this output in the first year and predict they will outperform it over the period.

To deliver these outputs, the industry accepted a controllable cost allowance of £16.8 billion for the eight year period. Companies are incentivised to outperform their allowances, benefiting both the companies and their customers. Companies forecast that after the first year their actual eight year costs will be 11% below their allowance. Customers will receive around 36% of this £1.9 billion saving through the sharing mechanism. On this basis the distribution transportation component of an average annual consumer's bill will reduce from £141.02 in 2013-14 to £133.29 by the end of RIIO-GD1.

Companies are achieving this outperformance as a result of:

- delivering outputs more efficiently
- the advantages of real price effects being lower than those used in setting the price control
- the slower recovery of the economy leading to a reduced workload in connecting new consumers.

In the first year, companies also benefited from a mild winter, which reduced the adverse effects of cold weather on network assets.

All companies are pursuing and sharing innovative ideas to deliver outputs more efficiently during and beyond the price control period. In the first year companies have spent £10 million on innovation in addition to the £15 million allocated under the 2013 network innovation competition.

As part of the price control negotiation we said that GDNs could achieve double-digit returns on regulatory equity (RoRE) for exceptional performance. Based on GDNs' forecast performance for the RIIO-GD1 period we have calculated that returns will range from 8.9% to 11.8%, with NGGD's London network, NGN, and SGN exceeding 10%. We will continue to monitor GDNs' performance to ensure they deliver the outputs they have committed to over the full RIIO-GD1 period.

1. Introduction

1.1. Each of the eight GDNs own and operate network assets within a defined geographical area. They transport 541 TWh of gas per year from the National Transmission System to the homes and businesses of around 22 million consumers in Great Britain. GDNs are responsible for the operation, maintenance and extension of the network and for providing a 24 hour gas emergency service. We regulate the GDNs to ensure consumers and other stakeholders receive the network services they need at an efficient cost. We do this by setting the allowed revenues which GDNs can recover from their customers. We specify in their licences the agreed services and standards of performance they must achieve, incentivising good performance and penalising companies for poor performance.

1.2. The GDNs are listed in figure 1.1 together with the companies that manage them.

Figure 1.1: Gas distribution networks

| Company | Gas Distribution Network (GDN) | GDN short name |
|--------------------------------|--------------------------------|----------------|
| National Grid Gas plc | East of England | EoE |
| | North London | Lon |
| | North West | NW |
| | West Midlands | WM |
| Northern Gas Networks Limited | Northern | NGN |
| Scotia Gas Networks Limited | Scotland | Sc |
| | Southern | So |
| Wales & West Utilities Limited | Wales and West | WWU |



1.3. RIIO-GD1 is the first price control, along with its transmission equivalent (RIIO-T1), that uses the RIIO (Revenue = Incentives + Innovation + Outputs) price

control model. We set out the details of our allowances and the outputs that companies are committed to deliver in our Final Proposals publication in December 2012.¹ The price control began on 1 April 2013 and runs to 31 March 2021.

1.4. This report aims to provide stakeholders with information on the performance of GDNs against their price control obligations and incentives for the first year of the price control. It also provides information on GDNs updated forecast for the remaining seven years. It is structured to reflect the new RIIO framework and discusses:

- **Revenue:** the revenue we have allowed companies to charge their customers and the impact this has on the average gas bill
- **Incentives:** how incentives have driven cost efficiency, and what this means in terms of companies' overall financial performance
- **Innovation:** innovative practice that enables activities within the GDNs to be delivered more efficiently and effectively, both now and in the future
- **Outputs:** performance achieved against the six output areas, which are
 - network safety
 - network reliability
 - customer service
 - new connections
 - social obligations
 - protection of the environment.

1.5. Companies submit to us an annual report for each of their licensed networks so we can monitor performance against the price control. Our representatives from a range of disciplines have visited the four companies to discuss technical and financial aspects of their submissions, and we sought clarification and further information through supplementary written questions. This helps us to further improve our understanding of the reported information and provides the opportunity to ask questions about the accuracy of the data provided. This report brings together the information gathered from these sources.

1.6. Unless otherwise stated all financial values in this report are in 2013-14 prices.

¹ Ofgem's final proposals for RIIO-GD1 contain an overview document and a number of supporting annex documents which can be found on the Ofgem website at <https://www.ofgem.gov.uk/publications-and-updates/riio-gd1-final-proposals-%E2%80%93-overview>

2. Revenue and customer bill impact

Chapter summary

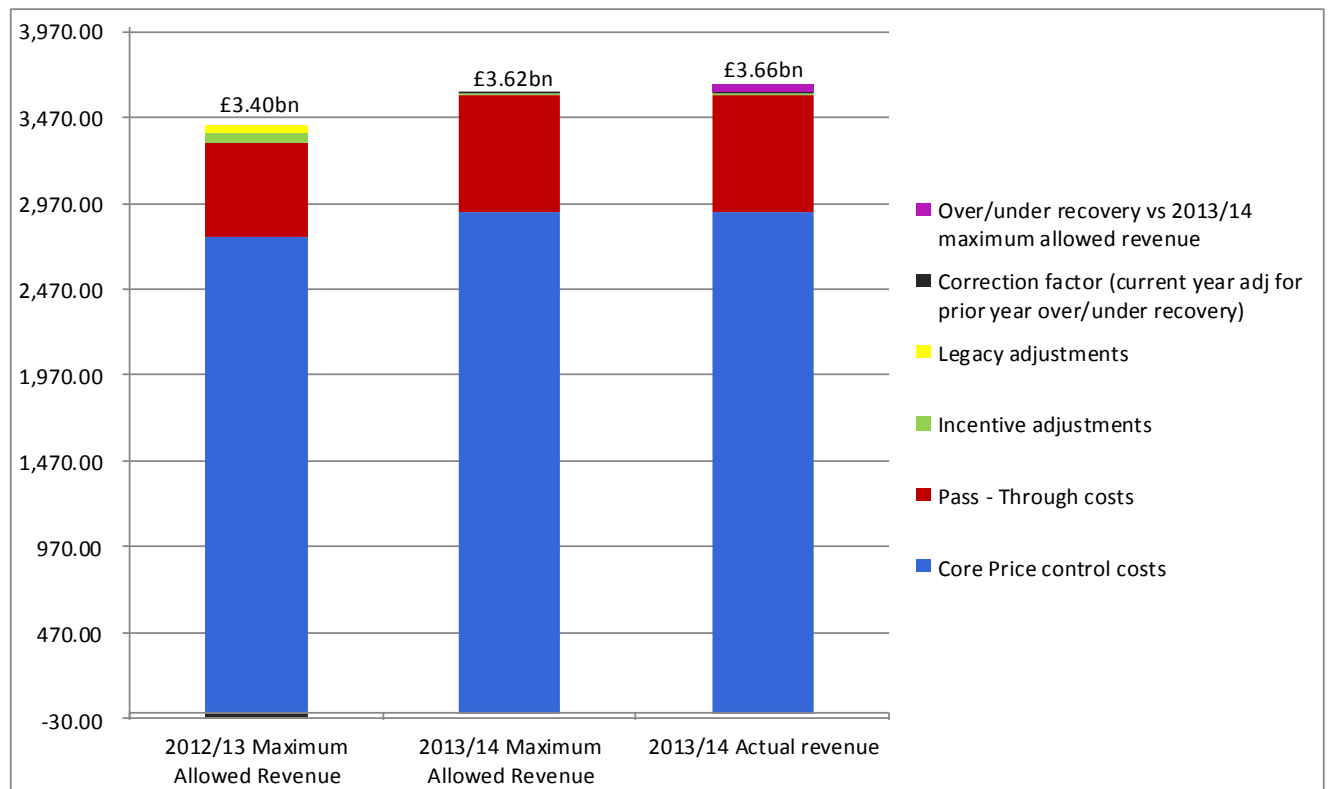
This chapter explains how revenue allowances set for the gas distribution networks (GDNs) in RIIO-GD1 will affect customer gas bills.

Analysis of gas distribution allowed revenue

2.1. Allowed revenue is the maximum amount that GDNs may recover each year from network transportation charges. Allowed revenue for 2013-14 was set at £3.62 billion and actual revenue reported by the companies for 2013-14 was broadly consistent with our expectations at £3.66 billion. The £45m over-recovery is within agreed tolerances, and allowed revenue will be adjusted in future years through the correction factor (as explained in para 2.3).

2.2. In final proposals we forecast that revenue would increase by 7% compared with the final year of the previous price control. Figure 2.1 shows the components that make up revenue and the difference in revenue between 2012-13 and 2013-14:

Figure 2.1: Comparison of 2012-13 revenue vs. 2013-14 revenue



2.3. The companies' maximum allowed revenue in 2013-14 is made up of the following:

- *Core price control costs* - This represents the base revenue allowance (weighted average cost of capital earned on regulated asset value, depreciation and costs paid in year as 'fast money') set by the Authority for each GDN in Final Proposals. It is updated for actual out-turn through the annual iteration process (AIP) and adjusted for inflation. In Final Proposals we set out the components of base revenue and the role of the AIP.
- *Pass-through costs* - These costs are outside the GDNs' control and can be passed on to the customer - for example business rates, pension deficit, licence fees, NTS exit capacity charges and wholesale cost of gas. Because these are uncertain we forecast the likely cost at the start of the price control and make adjustments annually. This is explained in chapter five.
- *Legacy adjustments* - At the end of the previous price control, GDPCR1², there were still outstanding issues that had not been reflected in the GDNs' revenue allowances for GDPCR1.
- *Incentive adjustments* - These are incentives that relate to the previous price control where revenue relating to outperformance would be recovered in the first year of RIIO-GD1. This revenue is largely attributable to the capital expenditure (capex) rolling incentive that was in place for GDPCR1, which allowed GDNs to retain capex savings for a fixed time. The capex rolling incentive has been replaced by the totex³ incentive mechanism in RIIO-GD1. Note that in RIIO-GD1 incentive performance will only affect revenue from 2015-16 onwards due to the operation of a two year revenue lag. This revenue lag forms part of the allowance mechanism.
- *Correction factor* - This is the revenue adjustment for under/over-recovery of charges versus allowed revenue in prior years. In GDPCR1 this adjustment was applied one year in arrears. For example, 2012-13 over-recovery was adjusted in 2013-14 allowed revenue. In RIIO-GD1 the adjustment for the current year over or under-recovery will be recorded two years in arrears.

2.4. Table 2.1 show the GDNs' maximum allowed revenue compared with actuals for 2013-14. Over or under-recovery of revenue can arise as charges are set in advance when there are uncertainties outside the control of the GDNs, for example the price of gas and uncertain peak day demand.

² GDPCR1 was the first gas distribution price control which ran between 1 April 2008 and 31 March 2013.

³ Totex is the companies' controllable costs which exclude business rates, license fees, pension's contributions and shrinkage.

Table 2.1: Comparison of actual revenue against allowed revenue for 2013-14

| Company | GDN | Actual Revenue | Allowed Revenue | Over/(under) Recovery | |
|-----------------|-----|----------------|-----------------|-----------------------|-----------|
| | | £m | £m | £m | % |
| NGG | EoE | 621 | 618 | 3 | 0% |
| | Lon | 420 | 408 | 12 | 3% |
| | NW | 453 | 459 | (6) | -1% |
| | WM | 329 | 318 | 11 | 4% |
| NGN | NGN | 398 | 395 | 3 | 1% |
| SGN | Sc | 294 | 293 | 1 | 0% |
| | So | 740 | 726 | 15 | 2% |
| WWU | WWU | 406 | 400 | 6 | 2% |
| Industry | | 3,663 | 3,618 | 45 | 1% |

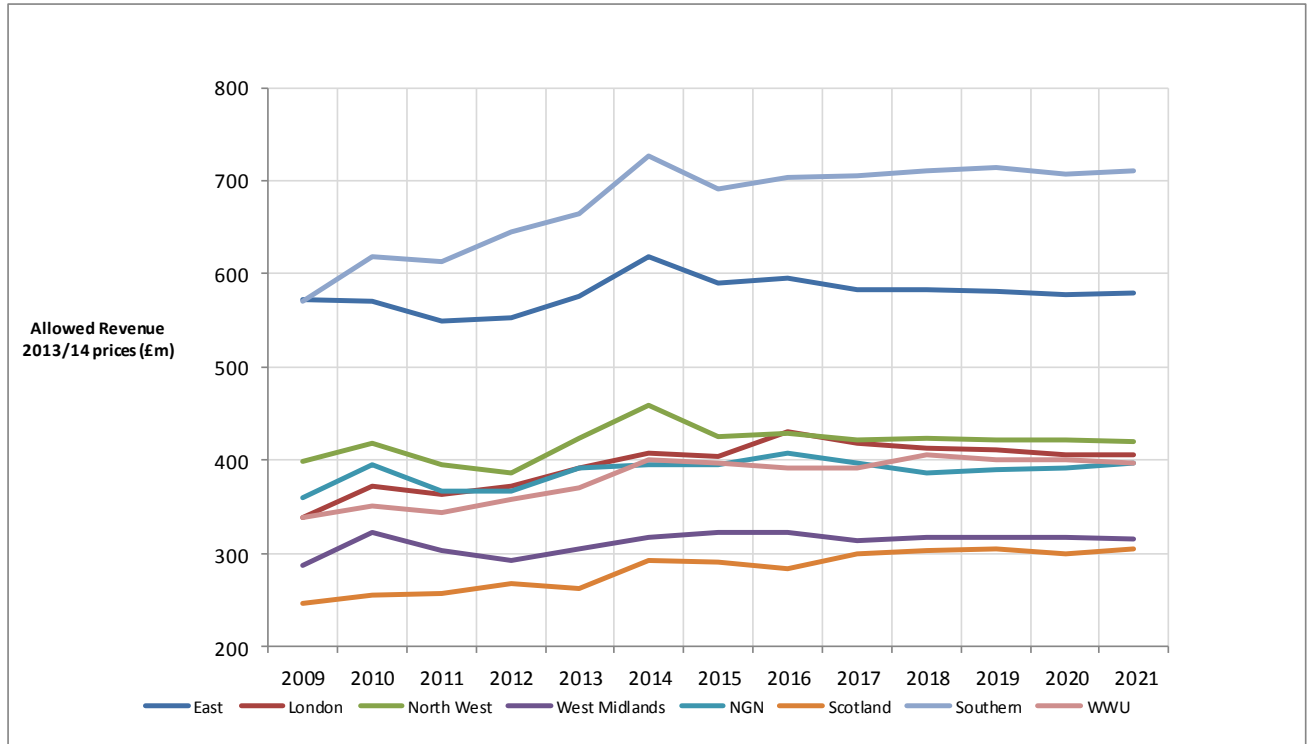
2.5. In addition to base revenue, the GDNs can be rewarded financially through output incentive mechanisms. However, they can also be penalised for failing to meet commitments. The GDNs' 2013-14 revenue does not reflect their performance in the first year as there is a two year revenue lag on output incentives. Therefore, any incentives relating to 2013-14 will feed through in 2015-16 revenue. The incentives are as follows:

- Broad measure of customer satisfaction – this can reward or penalise GDNs for their performance for customer satisfaction surveys, number of complaints (no reward) and stakeholder engagement. This is further explained in chapter three.
- Environmental emissions incentive (EEI) and shrinkage allowance mechanism – these both provide GDNs with an incentive to reduce gas transportation losses year on year and apply penalties when this is not achieved. This is further explained in chapter three.
- National Transmission System (NTS) exit capacity – exit capacity provides the right to offtake gas from the NTS up to a deemed flow rate, it is a pass-through cost and not linked to any outputs. GDNs are incentivised to minimise the impact on the NTS, where they spend less than the targeted cost they can retain a fixed proportion of the saving.
- Discretionary reward scheme – rewards companies that deliver outputs that contribute to environmental and social objectives that are not funded through the price control. This is further explained in chapter three.

2.6. As well as these incentives, a totex incentive mechanism shares with customers the penalties and benefits if GDNs out or underperform their totex allowance. Where a GDN outperforms their totex, around 64% is retained by the company and 36% is returned to the customer. The sharing is symmetrical if the GDNs underperform. Totex performance is discussed in chapter five.

2.7. Figure 2.2 shows the allowed revenue over GDPCR1 and the forecast levels during RIIO-GD1. Revenues are forecast to remain stable over the RIIO-GD1 period.

Figure 2.2: Allowed revenue⁴ (£m) profile for 2008-09 to 2020-21



⁴ Allowed revenue figures for 2008-9 to 2013-14 are derived from the GDNs' revenue returns whilst forecasts for 2014-15 onwards comprise base revenue forecasts as per the latest published gas transport special license condition (Special Condition 1B Appendix 1). The values shown in Figure 2.2 do not reflect the changing treatment of NTS exit capacity costs in Allowed Revenue over time. From 2009 to 2012 these costs were treated as an in-year pass-through cost from NTS and are therefore not reflected in revenues. From October 2012 onwards a modification to the Uniform Network Code resulted in NTS exit capacity charges being recovered as follows, we have not made any adjustments to allowed revenue:

- a) For 2013 a six month pass-through cost allowance (October 2012 to March 2013).
- b) For 2014 a full year pass-through cost allowance with a lagged correction for the prior year under/over-recovery.
- c) From 2015 onwards a constant level of NTS exit capacity cost allowance (ranges from £0.2 to 54m across the GDNs) has been assumed, which is consistent with the November 2014 AIP. The under/over-recovery against actuals will be lagged by two years in allowed revenue.

Bill impact

2.8. Consumers pay for GDNs to operate and maintain the gas distribution network through their gas bill. This part of the bill is called the gas distribution transportation charge.

2.9. In calculating the impact on bills, we assume that 100% of the gas distribution network charges are passed on from suppliers to consumers.

2.10. At the end of the previous price control, GDPCR1, the average annual gas distribution transportation charge per household was £133.03⁵. We anticipated that this would increase in the first year in line with the 7% increase in allowed revenue.

2.11. During the RIIO-GD1 period we will assess the gas distribution element of the customer's bill based on the revenue and charges information the GDNs provide on the Joint Office website for revenue and charges. As part of this they also forecast future revenue.

2.12. We have been working with the GDNs to develop a consistent approach to enable us to monitor the customer bill impact out to the end of RIIO-GD1. Appendix one sets out the methodology we have used.

2.13. Using this methodology we predict that gas distribution element of an average domestic customer's bill will fall by £7.73 from £141.02 in 2013-14 to £133.29 in 2020-21, the breakdown by GDN is shown in table 2.2. This reduction reflects the improved totex efficiency that the companies are now forecasting. We will continue to monitor this throughout RIIO-GD1.

Table 2.2: Forecast gas distribution element of an average domestic customer bill (2013-14 prices)

| Company | GDN | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------------------|-----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| NGGD | EoE | £ 133.99 | £ 129.84 | £ 129.96 | £ 126.82 | £ 131.02 | £ 128.98 | £ 127.11 | £ 125.93 |
| | Lon | £ 151.66 | £ 147.82 | £ 154.55 | £ 152.85 | £ 148.68 | £ 150.14 | £ 147.50 | £ 145.88 |
| | NW | £ 136.90 | £ 130.88 | £ 132.44 | £ 132.31 | £ 128.77 | £ 128.17 | £ 128.06 | £ 126.33 |
| | WM | £ 137.75 | £ 137.77 | £ 131.45 | £ 131.71 | £ 136.64 | £ 134.73 | £ 134.44 | £ 131.80 |
| NGN | NGN | £ 129.02 | £ 132.31 | £ 133.29 | £ 128.37 | £ 124.35 | £ 124.63 | £ 125.92 | £ 126.95 |
| SGN | Sc | £ 129.97 | £ 132.57 | £ 122.96 | £ 130.30 | £ 131.84 | £ 132.48 | £ 128.48 | £ 128.42 |
| | So | £ 156.71 | £ 148.22 | £ 143.22 | £ 144.79 | £ 146.82 | £ 146.90 | £ 143.14 | £ 141.62 |
| WWU | WWU | £ 144.04 | £ 144.37 | £ 135.91 | £ 139.10 | £ 143.43 | £ 141.61 | £ 140.46 | £ 138.56 |
| Industry average | | £ 141.02 | £ 138.17 | £ 135.93 | £ 135.88 | £ 136.76 | £ 136.19 | £ 134.51 | £ 133.29 |

⁵ The average domestic customer bill impact at the end of GDPCR-1 was £129.76 in 2012-13 prices, which has been re-based to 2013-14 prices for the purposes of comparison. This figure was derived from the average gas distribution network charge at the end of the last price control and includes changes in allowed revenue through the period from 2008-9 to 2012-13.

2.14. The average domestic customer bill is based on an average consumption (AQ) of 15,300kWh to enable direct comparison between all GDNs. This may differ from the assumptions used in companies' own published information.

3. Outputs

Chapter Summary

This chapter examines GDNs' performance against their RIIO-GD1 output commitments in the first year, and their forecast future performance for the remaining years of the price control period. Where GDNs' performance has failed or is forecast to fail, we explain the reasons and what is being done in response.

General

3.1. As part of RIIO-GD1 we set a range of outputs the GDNs have committed to deliver during the price control period. Outputs form the cornerstone of the RIIO price control framework⁶ and fall into the following six categories:

- Network safety
- Network reliability
- Protection of the environment
- Social obligations
- New connections
- Customer service

3.2. Tables 3.1 and 3.2 summarise companies' achievements against these outputs. Some output commitments must be achieved each year of the price control while others are to be achieved over the total eight year RIIO-GD1 period. The two tables identify whether the 2013-14 annual commitments were met and whether the eight year output commitments are forecast to be met.

3.3. The tables are colour-coded to indicate the level of success achieved in 2013-14 or forecast to be achieved over the RIIO-GD1 period:

- Red - failure of an annual output or the forecast failure of the eight year output commitment
- Amber – risk of failure of the eight year output commitment
- Green – successful achievement of an annual output or on-target progress towards the eight year output commitment.

⁶ Further detail of the outputs framework in RIIO-GD1 is available on the Ofgem website at <https://www.ofgem.gov.uk/ofgem-publications/48155/2riiogd1fpoutputsincentivesdec12.pdf>

Table 3.1: 2013-14 one-year outputs

| Primary output | Deliverable | EoE | Lon | NW | WM | NGN | Sc | So | WWU |
|---|--|-----|-----|----|----|-----|----|----|-----|
| Connections | Guaranteed standards performance | | | | | | | | |
| Environmental | Leakage | | | | | | | | |
| Safety (emergency response) | 97% Controlled interruptions | | | | | | | | |
| | 97% Uncontrolled interruptions | | | | | | | | |
| Safety (repair) | GS(M)R 12 hour escape repair requirement | | | | | | | | |
| | Management of repairs (Repair risk) | | | | | | | | |
| Safety (major accident hazard prevention) | GS(M)R safety case acceptance by HSE | | | | | | | | |
| | COMAH safety report reviewed by HSE | | | | | | | | |
| Customer satisfaction | Planned interruptions survey | | | | | | | | |
| | Emergency response survey | | | | | | | | |
| | Connections survey | | | | | | | | |
| | Complaints metric | | | | | | | | |

Table 3.2: Forecast eight-year outputs

| Primary output | Deliverable | EoE | Lon | NW | WM | NGN | Sc | So | WWU |
|----------------------------------|--|-----|-----|----|----|-----|----|----|-----|
| Connections | Introduce distributed gas entry standards | | | | | | | | |
| Social obligation | Fuel poor connections | | | | | | | | |
| | Carbon monoxide awareness | | | | | | | | |
| | Stakeholder engagement | | | | | | | | |
| Environmental | Leakage | | | | | | | | |
| | Provide biomethane connections information | | | | | | | | |
| Reliability (loss of supply) | Duration of planned interruptions | | | | | | | | |
| | Duration of unplanned interruptions | | | | | | | | |
| | Number of planned interruptions | | | | | | | | |
| | Number of unplanned interruptions | | | | | | | | |
| Reliability (network capacity) | Achieving 1 in 20 obligation | | | | | | | | |
| Reliability(network reliability) | Maintaining operational performance (see secondary deliverables) | | | | | | | | |
| Safety (mains replacement) | Iron mains risk (based on MPRS) | | | | | | | | |
| | Sub-deduct networks off-risk | | | | | | | | |

Secondary deliverables relating to safety and reliability outputs are discussed in appendices two and three.

Operating a safe network

3.4. There are five primary network safety outputs:

- iron mains risk reduction (mains replacement) – eight year output
- emergency response – annual output
- repair management – annual output
- major accident prevention – annual output
- sub-deduct networks – eight year output.

Iron mains risk reduction

3.5. The gas distribution network consists of 72,000 km of iron mains representing 27% of the total mains population. The remainder is constructed mainly from polyethylene and steel. Iron mains are known to fail in service with the potential to cause major incidents (fires and explosions) leading to injuries, fatalities and property damage. The companies are therefore required by the Health and Safety Executive (HSE) to carry out a programme of iron mains replacement.

3.6. The HSE updated its iron mains policy to coincide with the start of the RIIO-GD1 price control period in 2013. Their new policy means GDNs can develop their replacement programme with fewer constraints than before. It also allows for risk to be controlled on larger diameter pipes by alternatives to conventional full replacement if the relative costs and total benefits of a full replacement do not justify the work. Further information on the three-tier policy can be found in appendix four.

3.7. The established iron mains risk measurement tool, MRPS⁷, assesses whether companies have met this output. Companies produced an inventory of the risk of each pipe at the beginning of the price control period, and the total risk reduction is determined against this inventory as the iron mains are individually decommissioned or the risk specifically controlled.

3.8. In the first year of RIIO-GD1, the industry has removed twice the average annual iron mains risk required to achieve the eight year output. Companies explained in their annual reports that they have adopted a strategy of securing the early achievement of this primary output through targeting higher-risk mains from their total iron mains asset base. Across the Great Britain industry, iron mains risk has reduced by 0.25 incidents per year as a result of the iron mains risk removal policy work. Table 3.3 shows the iron mains risk reduction achievements for individual GDNs.

⁷ MRPS (Mains Replacement Prioritisation System) is a model used for assessing the risk of an incident caused by individual iron mains.

Table 3.3: Iron mains risk reduction 2013-14

| Company | GDN | Risk reduction 8 year commitment | Proportionate annual risk reduction for one year | Actual risk reduction achieved | Risk removal outperformance |
|-----------------|-----|--|---|--------------------------------------|--------------------------------|
| | | Incidents/year x 10 ⁻⁶ | Incidents/year x 10 ⁻⁶ | Incidents/year x 10 ⁻⁶ | |
| NGGD | EoE | 192,567 | 24,071 | 44,727 | 86% |
| | Lon | 102,281 | 12,785 | 14,998 | 17% |
| | NW | 154,428 | 19,304 | 36,237 | 88% |
| | WM | 131,394 | 16,424 | 21,411 | 30% |
| NGN | NGN | 111,191 | 13,899 | 43,119 | 210% |
| SGN | Sc | 44,277 | 5,535 | 17,024 | 208% |
| | So | 137,287 | 17,161 | 44,401 | 159% |
| WWU | WWU | 98,727 | 12,341 | 24,971 | 102% |
| Industry | | 972,152 | 121,519 | 246,888 | 103% |

3.9. We note from submitted data that while achieving the risk output, NGGD, SGN and WWU have adjusted their selection strategy for iron mains abandonment compared with their original business plan submissions and from previous years' activities. They have abandoned a greater proportion of mains at the lower diameter, lower cost end of the tier one diameter range.⁸ NGN's workload mix is broadly consistent with previous performance in tier one. We estimate this has led to a repex saving of £77million. However, costs may increase in the future when a larger proportion of the higher diameter pipes within the tier one diameter band will need to be decommissioned. During our bilateral visits we explained to the companies there would not be an increase in total expenditure (totex) allowance in the next price control period to deal with the more costly mains within tier one unless this strategy can be justified in terms of consumer benefit.

3.10. The abandonment workload for diameter tiers two and three, ie the higher diameter pipes, was lower than expected levels in the first year for NGGD, SGN and WWU. We note, however, that there are no annual outputs GDNs must achieve and innovative techniques may be permitted to manage the risk for tier two and tier three mains as an alternative to full replacement. Further details of the iron mains secondary deliverable for mains off-risk can be found in appendix two.

Emergency response

3.11. Emergencies fall into two categories:

- Uncontrolled escapes (ie where the source of the leak cannot be confirmed as having been isolated by turning off an emergency control valve)

⁸ Tier one pipes are iron mains falling under the HSE iron mains risk reduction policy having a nominal internal diameter of up to 8 inches. Tier one iron pipes represent approximately 95% of all the at-risk iron mains population, the remaining 5% are above eight inches diameter.

- Controlled escapes (ie if the source of the leak is confirmed as having been isolated by the closure of the emergency control valve).

3.12. GDNs have a licence requirement to attend at least 97% of uncontrolled escapes within one hour and controlled escapes within two hours from the time of the report being received. Table 3.4 shows that all GDNs met this standard.

Table 3.4: Percentage of gas emergencies attended within standard

| Company | GDN | Percentage of <u>uncontrolled</u> gas emergencies jobs to within the one hour standard | | Percentage of <u>controlled</u> gas emergencies jobs to within the two hour standard | |
|-----------------|-----|--|---------------|--|---------------|
| | | 2013 | 2014 | 2013 | 2014 |
| NGGD | EoE | 98.46% | 97.91% | 99.40% | 98.99% |
| | Lon | 97.76% | 97.72% | 98.98% | 98.53% |
| | NW | 98.31% | 98.52% | 99.21% | 99.23% |
| | WM | 98.17% | 97.91% | 99.24% | 98.83% |
| NGN | NGN | 99.51% | 99.85% | 99.85% | 99.97% |
| SGN | SC | 99.03% | 99.02% | 99.72% | 99.80% |
| | So | 98.16% | 98.52% | 99.19% | 99.51% |
| WWU | WWU | 98.30% | 98.33% | 99.57% | 99.49% |
| Industry | | 98.43% | 98.47% | 99.37% | 99.29% |

Repair management

Proportion of gas escapes prevented within 12 hrs

3.13. GDNs have an obligation under The Gas Safety (Management) Regulations (1996) to prevent reported gas escapes within a 12 hour period unless they can prove it is not reasonably practicable to do so. We expect companies to deliver the 12 hour standard outputs as proposed in their business plans whilst ensuring compliance with statutory requirements.⁹

3.14. As can be seen from table 3.5 all GDNs met and outperformed their output commitment.

⁹ The requirement to meet the 12 hour escape prevention standard is detailed in the Gas Safety (Management) Regulations (1996) GS(M)R 7(4) and 7(10), with further clarification in HSE's circular SPC/ENFORCEMENT/140

Table 3.5: Gas escapes prevented within 12 hrs

| Company | GDN | 2013-14 | |
|-----------------|-----|------------|------------|
| | | Target | Actual |
| NGGD | EoE | 42% | 50% |
| | Lon | 43% | 44% |
| | NW | 34% | 45% |
| | WM | 36% | 43% |
| NGN | NGN | 59% | 62% |
| SGN | Sc | 60% | 73% |
| | So | 60% | 64% |
| WWU | WWU | 40% | 47% |
| Industry | | 47% | 53% |

Repair risk

3.15. Repair risk measures the safety risk presented by escapes which are individually assessed as not warranting urgent emergency action. They are monitored until it is reasonable to carry out the necessary repair work.

3.16. Annual repair risk is the total risk score associated with all gas escapes which require repair, recorded on a daily basis and totalled over a year. The repair risk primary output measure is based on maintaining, as a minimum, the total actual risk for 2012-13.

3.17. Four networks (EoE, NGN, Sc and So) met their required output; however the remaining networks (Lon, NW, WM and WWU) fell short. Table 3.6 below shows performance by GDN for 2013-14.

Table 3.6: Repair risk performance

| Company | GDN | 2013-14 | | |
|-----------------|-----|--------------------|-------------|-------------|
| | | Output requirement | Actual | Variance |
| NGGD | EoE | 5.2 | 3.0 | 41.5% |
| | Lon | 4.6 | 4.9 | (5.2%) |
| | NW | 4.9 | 5.3 | (8.4%) |
| | WM | 2.5 | 3.0 | (21.4%) |
| NGN | NGN | 34.5 | 34.4 | 0.4% |
| SGN | Sc | 2.5 | 1.9 | 23.3% |
| | So | 17.7 | 10.3 | 42.1% |
| WWU | WWU | 24.2 | 24.7 | (2.0%) |
| Industry | | 96.0 | 87.4 | 9.0% |

3.18. NGGD recognise that three of their networks have fallen short of the required performance. They have stated that focus is required in this area to meet their year on year commitment.

3.19. WWU explained that their failure to meet the output was significantly affected by a single large diameter pipe in poor condition which they have now replaced.

3.20. The HSE is ultimately responsible for regulating operational safety and we are discussing the implications of the failure to meet this output with them.

3.21. SGN acknowledge that the mild winter has helped reduce the level of repair risk across the industry.

Major accident prevention

3.22. This output requires companies to prepare their safety case as required by GS(M)R¹⁰ for approval by the HSE, and to submit a safety report for approval by the HSE in accordance with Control of Major Accident Hazards Regulations (1999) (COMAH). All companies have complied with this obligation.

Sub-deduct networks

3.23. A sub-deduct network has an unusual configuration consisting of a primary meter and one or more secondary meters. The ownership of such networks is sometimes unclear, presenting a safety issue.

3.24. Companies have primary output commitments to remove the safety risk associated with these networks. They can do this by either identifying a third party that formally accepts full responsibility for them, or carrying out physical alterations to remove the uncertainty of ownership.

3.25. In the first year, GDNs have begun the process by removing the risk where it is less complex to resolve, and are planning their strategy for the remainder. A total of £0.6m was spent on this activity in the year.

3.26. NGGD have stated their intention to clear the risk on all their sub-deduct networks by 2016-17, and NGN expect to remove the majority by 2015-16. All companies have forecast to achieve this output by removing all risk associated with these networks by the end of the price control period.

¹⁰ GS(M)R is the Gas Safety (Management) Regulations 1996, which requires the companies to have an up-to-date safety cases that explain how they ensure the safe conveyance of gas, accepted by the Health and Safety Executive.

Secondary deliverables

3.27. The achievement of safety risk improvement can be confirmed through secondary deliverables associated with mains safety. These are:

- length of mains off risk (km)
- numbers of pipe fractures and corrosion failures from iron mains
- number of occurrences of 'gas in buildings' events caused by iron mains
- number of incidents¹¹
- number of steel service pipes decommissioned.

3.28. Secondary deliverables for safety are discussed in appendix two.

Operating a reliable network

3.29. Consumers need a reliable and continuous gas supply, and output commitments require companies to achieve minimum levels of network reliability performance. Network availability to GB consumers in 2013-14 was 99.997%, consistent with the distribution network's performance in the previous year.

3.30. There are three primary outputs relating to network reliability:

- Minimising planned and unplanned supply interruptions – eight year output,
- Achieving the one in 20 supply capacity obligation – annual output, and
- Maintaining operational performance – eight year output.

Minimising planned and unplanned supply interruptions

3.31. Measures for this output are in the categories

- Planned supply interruptions
 - Number of interruptions
 - Duration of interruptions
- Unplanned supply interruptions
 - Number of interruptions
 - Duration of interruptions

3.32. The number of planned interruptions depends on the amount of mains abandonment workload and the number of services replaced and transferred. We note that SGN have undertaken more iron mains abandonment and London have replaced a significantly higher number of services than anticipated in the first year, which may have affected the number and duration of planned interruptions.

¹¹ Incidents are defined as major structural damage, injury or loss of life

3.33. Performance for unplanned interruptions depends on the emergency response to network failures, damage to network assets, capacity-related network failures and upstream gas supply failures. Companies have some influence over the performance of network assets and third party activities, and specific measures may lead towards measurable performance improvement.

3.34. There are no formal annual output commitments. To gain an understanding of whether GDNs' are on track to meet the overall eight-year RIIO-GD1 output, we have compared performance against a linear interpolation of the overall output level for the first year.¹² With the exception of NGGD, companies have also provided a forecast of their expected overall performance.

3.35. NGGD informed us of an error in their submitted interruption data following their submission due to an internal data management issue. They have revised their submitted information for 2012-13 and 2013-14 and will submit their first forecast in the next annual submission. When NGGD have completed their investigation into the causes and consequences of the error we will consider any further steps that may be required. At this stage, we do not believe this has any financial impact on the previous price control, GDPCR1.

3.36. Table 3.7 summarises the companies' performance.

Table 3.7: Summary of interruption performance

| | Number of interruptions | Duration of interruptions |
|------------------|---|---|
| Planned | <p>So & Lon – Higher level of planned interruptions than the average annual output commitment. For So We believe there is a risk of failure of the eight year output based on first year performance but SGN forecast that they will meet it.</p> <p>NGGD are unable to forecast achievement of output over the eight-year period.</p> | <p>So – Higher level of planned interruption duration than the average annual output commitment. We believe there is a risk of failure of the eight year output based on first year performance but SGN forecast that they will meet it.</p> <p>NGGD are unable to forecast achievement of output over the eight-year period.</p> |
| Unplanned | <p>NGGD, SGN and NGN – The number of unplanned interruptions was in excess of the average annual output</p> | <p>WWU did not meet their average annual output commitment in the first year, but forecast to achieve the overall output over the eight-year</p> |

¹² Based on the assumption that any eight year output is delivered evenly each year.

| | | |
|--|---|--|
| | <p>commitment. For SGN we believe there is a risk of failure of the eight-year output based on first year performance but SGN forecast that they will meet it.</p> <p>NGN forecast to fail the overall output over the eight-year period.</p> <p>NGGD are unable to forecast achievement of output over the eight-year period.</p> | <p>period.</p> <p>NGGD are unable to forecast achievement of output over the eight-year period.</p> |
|--|---|--|

3.37. A detailed assessment of performance in the first year can be found in appendix five.

3.38. NGN and SGN accepted the reliability output for interruptions as part of the RIIO-GD1 package. However, they have expressed concern that it is more challenging to deliver than intended and there is a risk that they may fail to meet their reliability output commitments. We are working with these companies to ensure delivery of these outputs is achieved, without driving behaviour that adversely affects the consumer.

3.39. SGN have indicated they intend to increase the use of live insertion techniques to reduce the impact of planned mains and services replacement on consumers. NGN are considering using temporary bottled gas supplies to prevent interruption in some circumstances.

3.40. NGGD told us they have implemented an action plan that includes system enhancements and training to reduce the duration of unplanned interruptions.

3.41. NGN believe that unplanned interruption performance may have benefited from the mild winter conditions in 2013-14, this reduced the number of reactive, unplanned workload. However, WWU point out that despite the mild winter, service repair work is increasing. We note that at an industry level, service repairs are increasing despite an ongoing programme of steel service replacement. NGN have said they are considering implementing a programme of bulk service renewal to help achieve their output for unplanned interruptions in the longer term.

Achieving the one in 20 supply capacity obligation

3.42. Under companies’ licence conditions, GDNs are required to maintain supplies for the daily demand conditions that are statistically experienced in the worst winter

in 20 years. This ensures companies will safely and securely distribute gas to consumers through their networks even when demand for gas is high.

3.43. The capacity of above ground assets may change as a result of wholesale or part replacement of an installation. We set the primary output to ensure any work undertaken on these assets increases or maintains the overall capacity, and capacity does not gradually erode in the pursuit of lower-cost short-term solutions.

3.44. The output compares the capacity capability of above ground installation sites with the demand required under a one in 20 winter condition.

3.45. Tables 3.8 and 3.9 show the profile of the number of above ground installations that fall within various capacity bands at the start of RIIO-GD1 and after the first year. Sites listed in the >100% category will require a special management plan to ensure supplies are maintained under one in 20 conditions, whereas sites in the other percentage categories are able to provide the required capacity without special measures.

3.46. Similar capacity tables will be used to monitor trends in capacity availability against the profiles set as outputs for the mid-period (31 March 2017) and end of RIIO-GD1. We will work with the companies to determine a suitable and consistent methodology to assess their performance.

Table 3.8: Position at start of RIIO-GD1

| | EoE | Lon | NW | WM | (NGGD) | NGN | Sc | So | WWU |
|--------------------|---------------------------------------|-----|----|----|--------|-----|-----|-----|-----|
| </= 50% | No individual GDN commitment for NGGD | | | | 182 | 54 | 96 | 88 | 167 |
| >50% to </=70% | | | | | 142 | 55 | 29 | 49 | 97 |
| >70% to </=80% | | | | | 81 | 29 | 5 | 15 | 30 |
| >80% to </=100% | | | | | 164 | 40 | 14 | 11 | 52 |
| >100% | | | | | 41 | 13 | 3 | 0 | 0 |
| Total sites | | | | | 610 | 191 | 147 | 163 | 346 |

Table 3.9: Position at end of 2013-14

| | EoE | Lon | NW | WM | (NGGD) | NGN | Sc | So | WWU |
|--------------------|-----|-----|-----|-----|--------|-----|-----|-----|-----|
| </= 50% | 83 | 31 | 50 | 42 | 206 | 51 | 96 | 122 | 171 |
| >50% to </=70% | 89 | 19 | 37 | 34 | 179 | 58 | 26 | 26 | 81 |
| >70% to </=80% | 49 | 16 | 13 | 19 | 97 | 25 | 9 | 12 | 39 |
| >80% to </=100% | 45 | 8 | 21 | 21 | 95 | 49 | 14 | 5 | 51 |
| >100% | 11 | 9 | 7 | 8 | 35 | 10 | 3 | 0 | 0 |
| Total sites | 277 | 83 | 128 | 124 | 612 | 193 | 148 | 165 | 342 |

Maintaining operational performance

3.47. Maintaining operational performance is measured through six secondary deliverables:

- Number and value of offtake meter errors - annual commitment

- Duration of telemetry faults - annual commitment
- Pressure systems safety regulations (PSSR) fault rate - annual commitment
- Gas holder demolition - eight year commitment
- Maintenance of network records - annual commitment
- Health, criticality and risk metrics - eight year commitment

3.48. Achievement of each of these deliverables confirms that the network is operating within agreed criteria and must be met to achieve the overall primary output.

3.49. Appendix three provides information on performance in each of these areas by GDN. The main deficiencies in the first year are:

- SGN's Southern network exceeded the maximum duration of telemetered faults
- WWU exceeded the maximum level of PSSR faults.

3.50. We are in discussion with these companies to ensure improvement in these areas and will pay close attention to the trend in year two to see if a trend of under-delivery becomes evident.

Customer service

3.51. Most consumers rarely need to communicate with their GDN. When they do need to it is essential that they receive a good standard of customer service and that questions are dealt with in a timely and professional manner. We also encourage companies to undertake effective engagement with their stakeholders, and reflect stakeholders' views in the planning and operation of their business.

Broad measure of customer service

3.52. We introduced a 'broad measure of customer service' for RIIO-GD1 to incentivise GDNs to deliver good customer service and engage with stakeholders. GDNs can earn financial rewards or penalties based on how well they perform. The incentive has three components:

- Customer satisfaction survey
- Complaints metric
- Stakeholder engagement incentive

Customer satisfaction survey

3.53. The customer satisfaction survey monitors performance within three customer categories:

- **Planned interruptions:** Customers who have been affected by planned work carried out by the GDN on service pipes which is likely to have caused an interruption to their gas supply
- **Emergency response and repair:** Consumers who report a gas escape or loss of supply
- **Connections:** Customers who have had work completed on a new or existing gas connection

3.54. GDNs can be rewarded or penalised a sum of up to 0.5% of base revenue, depending on how well they perform against the target.¹³ The customer satisfaction scores and incentive gained for 2013-14 are shown in table 3.10.

Table 3.10: GDN customer satisfaction survey data 2013-14¹⁴

| Company | GDN | Scores out of 10 | | | | Ranking on average score | Financial Reward/(Penalty) (£m) | | | |
|---------------|-----|----------------------|-------------------------------|-------------|---------|--------------------------|---------------------------------|-------------------------------|------------|----------------------------------|
| | | Planned Interruption | Emergency Response and Repair | Connection | Average | | Planned Interruption | Emergency Response and Repair | Connection | Total Financial Reward/(Penalty) |
| NGGD | EoE | 8.17 | 9.18 | 7.59 | 8.31 | 5 | 0.20 | 1.04 | (0.63) | 0.61 |
| | Lon | 7.9 | 8.84 | 6.61 | 7.78 | 8 | (0.22) | 0.13 | (0.70) | (0.79) |
| | NW | 7.68 | 9.21 | 8.03 | 8.31 | 6 | (0.52) | 0.75 | (0.01) | 0.22 |
| | WM | 7.95 | 9.06 | 7.52 | 8.18 | 7 | (0.13) | 0.56 | (0.39) | 0.03 |
| NGN | NGN | 8.38 | 9.25 | 8.61 | 8.75 | 1 | 0.48 | 0.67 | 0.67 | 1.82 |
| SGN | Sc | 8.67 | 9.2 | 8.3 | 8.72 | 2 | 0.51 | 0.51 | 0.36 | 1.37 |
| | So | 8.44 | 9.03 | 8.22 | 8.56 | 4 | 1.03 | 1.21 | 0.60 | 2.85 |
| WWU | WWU | 8.59 | 9.14 | 8.34 | 8.69 | 3 | 0.68 | 0.68 | 0.56 | 1.92 |
| Target | | 8.09 | 8.81 | 8.04 | | | | | | |

3.55. It can be seen that all four NGGD networks failed to meet the required target score for the connections surveys, and three of the four NGGD networks failed to achieve the required target score for planned interruptions surveys. They were penalised for their performance in these areas.

3.56. NGN achieved the highest average score across the three survey categories while the four NGGD networks the lowest.

3.57. Some of NGGD networks did not achieve the minimum number of surveys, necessary to inform the incentive, for planned work and connection activities. These were London, NW, and WM for connections and in London for planned work. We are currently considering how to deal with this.

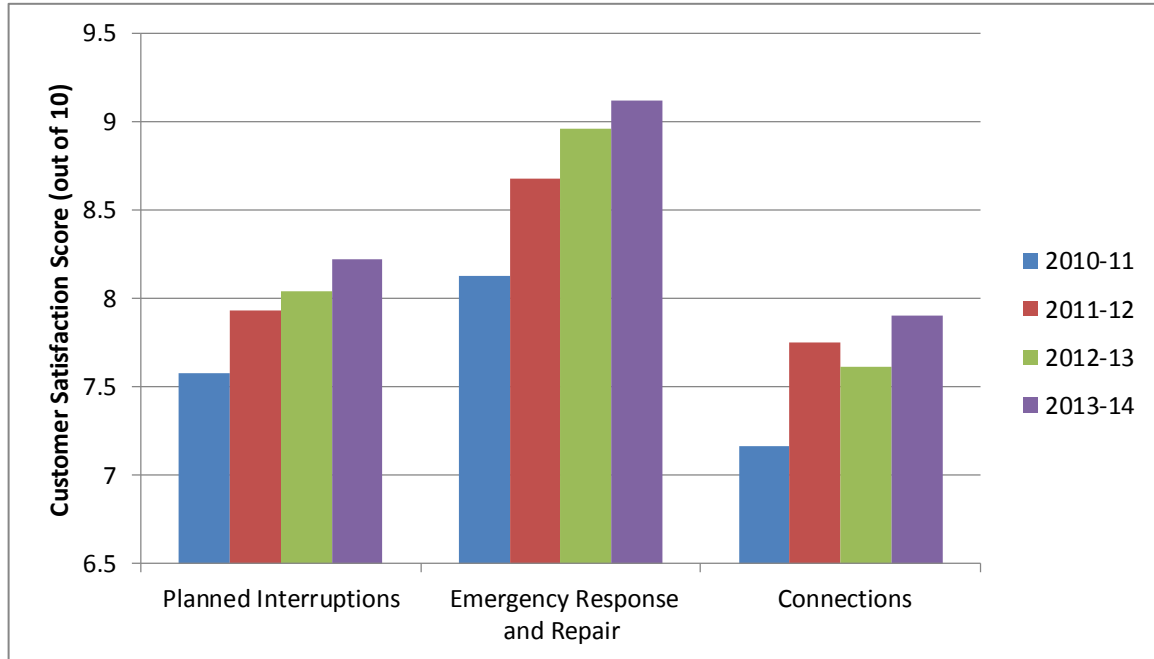
3.58. Despite NGGD failing to meet target scores, overall industry performance has improved on previous years. Figure 3.1 shows the level of improvement since 2010-11.

¹³ The target is based on the GDN upper quartile performance during the trial customer satisfaction survey that took place prior to RIIO-GD1.

¹⁴ The survey asks customers about the service provided and they are asked to score the GDN out of 10. Only the answer to the final question ('overall, how satisfied were you with the service provided') is used to measure performance for the purpose of this incentive.

3.59. NGN, SGN and WWU are performing well and outperforming their targets. They have all been recognised with various independent customer service awards.

Figure 3.1: Average GDN customer satisfaction survey scores from 2010-11 to 2013-14.¹⁵



Customer complaints

3.60. The complaints output incentivises GDNs to resolve complaints quickly and effectively. Complaints performance is measured against four indicators based on the percentage of:

- complaints resolved in one day
- complaints resolved in 31 days
- repeat complaints, and
- Energy Ombudsman (EO) decisions against the GDN.

3.61. Performance in each of these categories is combined to derive an overall score. The lower the score the more effective the GDN is at resolving complaints.

¹⁵ The customer satisfaction survey incentive commenced at the beginning of the RIIO-GD1 period. In 2010-11 customer satisfaction scores were calculated on a slightly different basis to subsequent years.

Table 3.11: GDN complaints data 2013-14

| Company | GDN | Un-resolved at day +1 (%) | Un-resolved at day +31 (%) | Repeat Complaint (%) | EO decision against GDN (%) | Complaint Metric Score | Rank |
|------------------|-----|---------------------------|----------------------------|----------------------|-----------------------------|------------------------|------|
| NGGD | EoE | 85 | 6 | 0 | 0 | 10.41 | 6 |
| | Lon | 86 | 9 | 0 | 0 | 11.45 | 8 |
| | NW | 86 | 9 | 0 | 0 | 10.3 | 5 |
| | WM | 85 | 7 | 0 | 0 | 10.7 | 7 |
| NGN | NGN | 40 | 2 | 1 | 0 | 4.99 | 1 |
| SGN | Sc | 75 | 4 | 0 | 0 | 9.04 | 3 |
| | So | 82 | 6 | 1 | 0 | 10.15 | 4 |
| WWU | WWU | 52 | 7 | 0 | 0 | 7.38 | 2 |
| Industry average | | 74 | 6 | 0 | 0 | 9.3 | |
| Target | | | | | | 11.57 | |

3.62. As can be seen from table 3.11 all GDNs met the target¹⁶, therefore avoiding a financial penalty. For example, the average percentage of complaints unresolved at 31 days has reduced from nearly 20% prior to RIIO-GD1, to 6% during 2013-14. NGN and WWU have performed particularly well with a very high proportion of complaints resolved at day +1.

Stakeholder engagement

3.63. The stakeholder engagement incentive incentivises GDNs to engage with stakeholders to inform their business decisions.

3.64. To be eligible for a reward, the company has to meet certain minimum criteria.¹⁷ Performance under this incentive is then assessed by an independent panel on a company basis. The panel comprises acknowledged experts in communications and stakeholder engagement.¹⁸ The scores and financial rewards are outlined in table 3.12. A detailed report can be found on our website.¹⁹

¹⁶ There are a number ways in which a score of 11.57 can be achieved. For example a company that has 51% of complaints outstanding after one day, 20% of complaints outstanding after 30 days, 1% repeat complaints and 0% of total complaints being found against the GDN by the EO.

¹⁷ The minimum criteria are outlined in the Stakeholder Engagement Incentive Guidance Document; <https://www.ofgem.gov.uk/ofgem-publications/87495/gdseincentive-guidancedoc.pdf>

¹⁸ Details of the panel members can be found at <https://www.ofgem.gov.uk/ofgem-publications/87874/sepanelmembers2013-14.pdf>

¹⁹ A detailed report of the stakeholder engagement incentive results can be found at <https://www.ofgem.gov.uk/publications-and-updates/gas-distribution-stakeholder-engagement-incentive-results-2013-14>

Table 3.12: GDN stakeholder engagement results 2013-14

| Company | GDN | Minimum Criteria | Panel score (out of 10) | Reward (£m) |
|---------|-----|------------------|-------------------------|-------------|
| NGGD | EoE | ✓ | 7.15 | 1.93 |
| | Lon | ✓ | | 1.29 |
| | NW | ✓ | | 1.40 |
| | WM | ✓ | | 1.03 |
| NGN | NGN | ✓ | 6.75 | 1.09 |
| SGN | Sc | ✓ | 6.05 | 0.61 |
| | So | ✓ | | 1.46 |
| WWU | WWU | ✓ | 6.30 | 0.92 |

3.65. The panel acknowledged the progress made by the GDNs, with NGGD scoring highest, over the last year. It noted collaboration on many issues; for example GDNs have worked together to help raise awareness of the dangers of carbon monoxide. The panel considered that the GDNs demonstrated strong engagement on fuel poverty and consumer vulnerability issues.

3.66. The panel encouraged the network companies to:

- give greater consideration to the desired outcomes of their engagement and capture the benefits that stakeholder engagement delivers
- give more consideration to how stakeholder engagement could address the long term, strategic issues facing the organisation, and
- engage with stakeholders more as an industry.

Connections

3.67. This section reviews new connections to the gas distribution networks which enable new customers to be supplied with gas and enable gas to enter the network from alternative sources. Gas entering the network from alternative sources is known as distributed gas, for example from a biomethane plant.

3.68. Customers contribute towards the cost of connecting a new supply, either in part or in full. New consumers will then pay a transportation charge as part of their gas bill.

New gas connections

3.69. In the first year of RIIO-GD1 GDNs made over 59,000 new gas connections, with around a quarter of these being fuel poor network connections as part of their social obligation. Table 3.13 provides a GDN breakdown by type of connection.

Table 3.13: Breakdown of new gas connection activity by GDN – 2013-14

| Company | GDN | New housing | Existing housing | Fuel poor | | | Non-domestic | Total |
|-----------------|-----|---------------|------------------|--------------|-------------------|--------------------|--------------|---------------|
| | | | | One-off | Community schemes | Other scheme types | | |
| NGGD | EoE | 2,005 | 4,748 | 1,356 | 269 | - | 136 | 8,514 |
| | Lon | 705 | 1,329 | 270 | - | - | 107 | 2,411 |
| | NW | 621 | 1,804 | 1,294 | 491 | - | 75 | 4,285 |
| | WM | 719 | 1,549 | 676 | 454 | - | 71 | 3,469 |
| NGN | NGN | 1,660 | 3,051 | 919 | 194 | 51 | 435 | 6,310 |
| SGN | Sc | 629 | 5,277 | 1,966 | 3,016 | 1 | 385 | 11,274 |
| | So | 4,435 | 5,564 | 908 | 267 | - | 428 | 11,602 |
| WWU | WWU | 2,898 | 5,381 | 1,224 | 1,408 | - | 587 | 11,498 |
| Industry | | 13,672 | 28,703 | 8,613 | 6,099 | 52 | 2,224 | 59,363 |

Guaranteed standards of performance

3.70. Customers seeking a new connection rely upon the companies to provide a good service. Guaranteed standards of performance (GSOPs) relate to the timely delivery of connections services. GDNs have a license condition to meet the standards on at least 90% of occasions. They achieved this in 2013-14. On occasions when GDNs fail to meet the required standard, they must make a payment to the affected customer.

3.71. The gas distribution networks paid over £390,000 to customers during 2013-14 for not meeting guaranteed standards of performance for connections. A summary of GDNs performance against the guaranteed standards and the compensation paid is shown in appendix six.

Social obligations

Fuel poor network extension scheme

3.72. Affordability and vulnerability are two key social priorities. The fuel poor network extension scheme enables customers who are suffering from fuel poverty to switch to natural gas by helping towards the cost of connecting to the gas network.

3.73. Over the eight year price control period, GDNs have committed to deliver a total of over 77,000 new connections to fuel poor households. The industry made nearly 15,000 fuel poor network extension scheme connections during 2013-14. Table 3.14 sets this out by GDN.

Table 3.14: Actual and forecasted fuel poor network extension scheme connections in 2013-14

| Company | GDN | Number of connections completed in 2013-14 | Total allowed number of connections during RIIO-GD1 | Percentage of total connections completed in 2013-14 |
|-----------------|-----|--|---|--|
| NGGD | EoE | 1,625 | 10,080 | 16% |
| | Lon | 270 | 2,880 | 9% |
| | NW | 1,785 | 13,330 | 13% |
| | WM | 1,130 | 8,360 | 14% |
| NGN | NGN | 1,164 | 12,000 | 10% |
| SGN | Sc | 4,983 | 11,000 | 45% |
| | So | 1,175 | 9,000 | 13% |
| WWU | WWU | 2,632 | 10,800 | 24% |
| Industry | | 14,764 | 77,450 | 19% |

3.74. Scotland and WWU have delivered 45% and 24% respectively of their eight year output in the first year. Scotland predicts it will achieve 87% in the first two years. A contributory factor for the higher number of connections within Scotland and Wales (WWU) is the availability of different grants for householders from their devolved administrations compared with England. SGN and WWU believe they can commit to achieving a greater number of fuel poor connections than the current output requires.

3.75. We are currently undertaking a review of the fuel poor network extension scheme which will include a review of the output commitments in place. We consulted with interested stakeholder in August 2014²⁰ and expect to publish our findings shortly.

Carbon monoxide (CO) awareness

3.76. During 2013-14, the GDNs worked together to develop a common survey that will be used to measure improvements in CO awareness. The companies have also developed a means of evaluating which activities are most effective in raising awareness of carbon monoxide and have formed a working group to support the sharing of best practice.

3.77. In future years, we will aim to publish GDNs' relative performance under the carbon monoxide survey. This will provide a reputational incentive for the GDNs to

²⁰ The fuel poor extension scheme review consultation letter can be found on the Ofgem website at <https://www.ofgem.gov.uk/publications-and-updates/fuel-poor-network-extension-scheme-review-consultation-letter>

improve performance. We will also assess the effectiveness of the GDNs' work to raise awareness of carbon monoxide as part of the DRS submissions.

Discretionary reward schemes

3.78. The gas discretionary reward scheme (DRS) incentivises GDNs to undertake activities addressing a range of social and environmental issues. Under the RIIO-GD1 arrangements, the DRS will run every three years, with a maximum reward of £12m available across the GDNs over the price control period.

3.79. We recently published guidance on the first DRS.²¹ The assessment will take place in summer 2015 and cover performance during the first two years of RIIO-GD1.

Protection of the environment

3.80. Companies' environmental outputs fall into two main categories:

- **broad environmental objectives** to ensure that companies contribute to the wider environmental objectives, with the most prominent role of the companies involving the facilitation of connections of renewable gas, and
- **narrow environmental objectives** to ensure companies minimise the environmental impact of their own activities, for example minimising transport losses (shrinkage) and minimising business carbon footprint.

Broad environmental objective

3.81. There are two aspects of the broad environmental objective:

- Introducing a voluntary standard of service for biomethane connections
- Reporting on the progress of connecting biomethane gas entry facilities

Introducing a voluntary standard of service for biomethane connections

3.82. Biomethane is a renewably sourced substitute for natural gas which can be injected into the gas network bringing environmental benefits. Biomethane injection to grid is an emerging technology, and while there are a few connected and commissioned sites in GB at the moment, an increasing number of enquiries and studies are underway that is likely to see a significant increase in connections throughout the RIIO-GD1 period. As part of the price control settlement, we encouraged companies to introduce voluntary connection standards for distributed

²¹ <https://www.ofgem.gov.uk/publications-and-updates/decision-arrangements-first-gas-discretionary-reward-scheme-drs-under-riio-gd1>

gas customers. This should better enable future connections. The companies have agreed to introduce common voluntary connections standards for initial enquiries (15 working days) and capacity studies (30 working days).

3.83. We will take into account the extent to which GDNs have facilitated the connection of distributed gas, including efforts to develop voluntary standards, as part of our evaluation of the DRS submissions.

Reporting on the progress of connecting biomethane gas entry facilities

3.84. As part of the broad environmental output, companies report:

- the total capacity of biomethane enquiries and applications currently in progress but not yet connected, and
- the total capacity of biomethane connected.

3.85. These figures are shown in table 3.15 below:

Table 3.15: Capacity of biomethane studies and capacity of biomethane connected

| Company | GDN | Studies 2013-14 | Connections 2013-14 | | Connections pre 2013-14 | |
|-----------------|-----|------------------------------|---------------------|------------------------------|-------------------------|------------------------------|
| | | Capacity (m ³ /h) | Number of sites | Capacity (m ³ /h) | Number of sites | Capacity (m ³ /h) |
| NGGD | EoE | 21,417 | 1 | 600 | 1 | 60 |
| | Lon | - | 0 | 0 | 0 | 0 |
| | NW | 3,136 | 0 | 0 | 0 | 0 |
| | WM | 3,173 | 0 | 0 | 0 | 0 |
| NGN | NGN | 5,680 | 0 | 0 | 0 | 0 |
| SGN | Sc | 900 | 0 | 0 | 0 | 0 |
| | So | 7,247 | 0 | 0 | 2 | 480 |
| WWU | WWU | 9,675 | 1 | 500 | 0 | 0 |
| Industry | | 51,228 | 2 | 1,100 | 3 | 540 |

Narrow environmental objectives

Shrinkage

3.86. Shrinkage refers to gas which is lost from the transportation network. It is the dominant element of companies' business carbon footprint and accounts for more than 0.75% of GB's greenhouse gas emissions.

3.87. Shrinkage comprises of:

- leakage from pipelines (approximately 95%)
- theft from the GDN network (approximately 3%)

- own-use gas (approximately 2%)²².

3.88. Companies are incentivised to reduce leakage from the network through the environmental emissions incentive (EEI) and to purchase gas at a lower price than allowed for revenue adjustment.

The EEI incentivises companies to help protect the environment by achieving a further reduction in environmental emissions above their leakage targets and rewards them with a financial value based on Department of Energy and Climate Change (DECC) non-traded carbon value. Companies achieved a combined additional reduction in environmental emissions of 15,591 tonnes of CO₂ equivalent (tCO₂e), attracting £11.6 million through the EEI mechanism.

3.89. Approximately 64% of this is retained by the companies and 36% returned to the customer, similar to the totex incentive sharing proportions.

3.90. Table 3.16 shows that all GDNs outperformed their shrinkage output commitments and will receive incentive payments.

Table 3.16: Shrinkage in year 2013-14

| Company | GDN | Shrinkage | | | Leakage | | |
|-----------------|-----|--------------|--------------|-------------|--------------|--------------|--------------|
| | | Target | Actual | Incentive | Target | Actual | EEI |
| | | GWh | GWh | £m | GWh | GWh | £m |
| NGGD | EoE | 569 | 522 | 0.82 | 535 | 491 | 2.56 |
| | Lon | 317 | 285 | 0.56 | 299 | 269 | 1.75 |
| | NW | 407 | 387 | 0.35 | 385 | 365 | 1.15 |
| | WM | 335 | 317 | 0.31 | 320 | 303 | 0.99 |
| NGN | NGN | 459 | 421 | 0.68 | 434 | 399 | 2.05 |
| SGN | Sc | 247 | 241 | 0.10 | 231 | 225 | 0.33 |
| | So | 637 | 598 | 0.69 | 604 | 569 | 2.04 |
| WWU | WWU | 440 | 421 | 0.33 | 415 | 402 | 0.76 |
| Industry | | 3,411 | 3,192 | 3.84 | 3,223 | 3,023 | 11.63 |

3.91. Companies predict that they will outperform their leakage output commitment over RIIO-GD1 - despite a forecast rise in average system pressures, which increases leakage.

²² Own use gas refers to that used for operational purposes on the GDNs' network. This is predominantly for gas pre-heating at pressure reduction stations to protect outlet pipelines against the damaging effects of frost heave.

Business carbon footprint (BCF)

3.92. GDNs reported their 2013-14 business carbon footprint which is summarised in table 3.17 below. In next year’s annual report we will include a similar table quantifying the annual change in footprint in terms of tCO2e and percentage reduction and ranking GDNs by their level of improvement.

Table 3.17: Total business carbon footprint

| Company | GDN | Total BCF (Excluding shrinkage) (tCO2e) |
|-----------------|------------|--|
| NGGD | EoE | 26,207 |
| | Lon | 16,496 |
| | NW | 19,633 |
| | WM | 13,135 |
| NGN | NGN | 21,740 |
| SGN | Sc | 10,310 |
| | So | 15,971 |
| WWU | WWU | 17,323 |
| Industry | | 140,814 |

Other emissions and natural resource use

3.93. GDNs also reported on the following environmental aspects:

- Land remediation
- The quantity of virgin aggregate used
- The amount of spoil sent to landfill
- ISO 14001 major non-conformities

3.94. Environmental performance for each GDN is summarised in table 3.18.

ISO140001 compliance

3.95. All four companies are accredited against the ISO 14001 international standard for environmental management. The standard does not in itself specify performance criteria, but assures conformity with the companies’ stated environmental policies. The accrediting body undertakes periodic surveillance audits to check companies’ compliance against the requirements of the standard.

3.96. While there were no reported major non-conformities against the standard, NGGD explained that they received a major non-conformance during the year but closed this out before year-end report. We will remind GDNs of the reporting guidance to ensure consistent and transparent reporting in next years’ regulatory reports.

Table 3.18: Summary of environmental measures

| Environmental Factor | | Description | Units | EoE | Lon | NW | WM | NGN | Sc | So | WWU |
|--------------------------------------|---|--|--------|--------|-------|--------|-------|--------|---------|--------|---------|
| Broad environmental measure | | Biomethane enquiries | Number | 179 | 7 | 38 | 47 | 65 | 32 | 93 | 69 |
| | | Biomethane connection studies | Number | 18 | 0 | 6 | 5 | 9 | 2 | 14 | 15 |
| | | Capacity of Biomethane connection studies | m3/h | 21,417 | 0 | 3,136 | 3,173 | 5,680 | 900 | 7,247 | 9,675 |
| | | Biomethane connections | Number | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | Capacity of Biomethane connected | m3/h | 600 | 0 | 0 | 0 | 0 | 0 | 0 | 500 |
| | | Other unconventional sources of gas enquiries | Number | 0 | 0 | 2 | 0 | 3 | 1 | 0 | 1 |
| | | Other unconventional sources of gas connection studies | Number | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| | | Capacity of other unconventional sources of gas connection studies | m3/h | 0 | 0 | 10000 | 0 | 0 | 0 | 0 | 0 |
| | | Other unconventional sources of gas connections | Number | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Capacity of other unconventional sources of gas connected | m3/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Narrow environmental measures | Land remediation | Sites routinely monitored & maintained - statutory | Number | 30 | 13 | 13 | 9 | 0 | 0 | 2 | 25 |
| | | Non-gasholder demolition sites - statutory remediation | Number | 7 | 1 | 0 | 2 | 0 | 0 | 0 | 4 |
| | | Gasholder demolition sites - statutory remediation | Number | 17 | 9 | 5 | 3 | 0 | 0 | 0 | 2 |
| | | Total sites (statutory remediation) | Number | 54 | 23 | 18 | 14 | 0 | 0 | 2 | 31 |
| | | Total cost | £ | 6.20 | 2.97 | 0.30 | 1.20 | 0.01 | 0.41 | 0.05 | 1.25 |
| | Virgin aggregate | Virgin aggregate (as a percentage of total imported backfill) | % | 40.8 | 0.3 | 27.5 | 3.1 | 28.58 | 17.31 | 6.78 | 82 |
| | | Virgin aggregate | Tonnes | 71,106 | 1,040 | 21,621 | 811 | 37,863 | 116,992 | 78,657 | 107,229 |
| | Spoil to landfill | Spoil to landfill (as a percentage of total excavated spoil) | % | 6.7 | 3.6 | 3.3 | 1.9 | 36.0 | 3.0 | 2.7 | 24.0 |
| | | Spoil to landfill | Tonnes | 16,544 | 2,453 | 4,920 | 2,746 | 61,555 | 17,197 | 46,220 | 43,464 |
| | ISO 14001 major non-conformities | Total | Number | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

4. Innovation

Chapter Summary

This chapter identifies how GDNs have been encouraged to identify innovation that aims to deliver a more efficient operation of their networks.

Network innovation competition

4.1. The gas network innovation competition (NIC) is an annual competition which encourages gas network licensees (distribution and transmission) to innovate in the design, build, development and operation of their networks.

4.2. It provides funds to a small number of large-scale innovation projects. Network licensees compete against each other for up to £18 million of available funding each year. Trials financed through the NIC will generate learning for all network licensees and will be made available to all interested parties. This learning brings potential benefits and cost savings for current and future consumers. In the first year of the gas NIC, four projects were selected and secured a total funding of £15.1 million. The GDNs recover the costs in 2014-15 from all GB consumers as part of their gas bill.

4.3. Table 4.1 below summarise NIC projects selected for funding in the 2013 gas NIC.²³

Table 4.1: Network innovation competition (NIC)

| Project Title | Lead company | Brief explanation | Funding request | Timescale |
|--|--------------------------------|--|-----------------|-------------------------------|
| BioSNG Demonstration Plant (Swindon) | National Grid Gas Distribution | A project to construct a demonstration plant investigating the techno-economic feasibility of the thermal gasification of waste to produce pipeline quality renewable gas. | £1.88m | April 2014 to March 2017 |
| Low Carbon Gas Preheating (North East) | Northern Gas Networks | A project to test new and emerging pre-heating technologies and associated operating systems. | £4.84m | January 2014 to December 2017 |

²³ More detail on the Gas NIC and the progress of the projects can be found here: <https://www.ofgem.gov.uk/network-regulation-%E2%80%93-rrio-model/network-innovation/gas-network-innovation-competition?page=1#block-views-publications-and-updates-block>

| | | | | |
|----------------------------------|-----------------------|---|--------|-------------------------------|
| Opening up the Gas Market (Oban) | Scotland Gas Networks | A project to establish whether gas which sits outside the British standards could be used safely and efficiently. | £1.87m | January 2014 to January 2016 |
| Robotics (South East) | Southern Gas Networks | A project to develop new robotic technologies that operate inside live gas networks, in order to repair leaking joints, manage risk of pipe fracture in larger diameter pipes and repair and replace pipeline assets. | £6.53m | January 2014 to December 2015 |

Network innovation allowance

4.4. A network innovation allowance (NIA) was provided as part of the price control settlement to fund small scale innovative projects at companies' discretion. Companies are allowed to spend between 0.5% and 0.6% of allowed revenue each year.

4.5. There were 119 active projects in the first year costing £9.6 million. Appendix seven summarises the projects.

5. Cost efficiency

Chapter Summary

This chapter looks at the GDNs' forecast expenditure over RIIO-GD1 compared with what was allowed in Final Proposals. It also explains how the price control deals with uncertainty.

Total expenditure

5.1. As part of RIIO-GD1 we set a total expenditure allowance (totex)²⁴ of £16.8 billion to enable companies to deliver their outputs and associated secondary deliverables. The companies are required to report their performance against the outputs and totex annually, and forecast their performance to the end of RIIO-GD1. After the first year companies are forecasting they will outperform totex by £1.9 billion (11%).

5.2. Companies are incentivised to outperform their totex allowance as part of the totex incentive mechanism. Any outperformance is shared with the customer. For RIIO-GD1 around 64% is retained by the company and 36% of any outperformance is returned to customers through revenue charges. Any underperformance (overspend) against their allowed totex is similarly shared with the customer.

5.3. The companies reported annual totex is used to determine future revenue with any out or underperformance adjusted after a two year lag. This should ultimately have a positive impact on consumers' gas bills. However, this depends on the companies' customers, the gas shippers, passing this on.

5.4. Throughout RIIO-GD1 we will monitor the GDNs' actual totex and will compare this with the allowances set and companies' annual forecast. Companies will have to explain any variances as part of their annual reporting. When looking at the companies' annual performance it is essential to note the context that outputs are to be delivered over the full eight year price control period.

5.5. A fundamental change between the previous price control and the RIIO framework is that companies are free to deliver outputs based on total whole life costs without being limited to using either operating expenditure (opex) or capital expenditure (capex). This enables companies to select the best solutions and optimises costs and benefits.

²⁴ Totex is the companies' controllable costs which exclude business rates, license fees, pension's contributions and shrinkage. The totex allowance has been adjusted to reflect the uncertainty of workload associated with tier two above the threshold iron mains.

5.6. Companies' forecast costs include an assessment of spending on activities that have not been funded as part of totex because of the uncertainty of the costs involved. We set out in our final proposals how we will handle these uncertainties, which include costs associated with the introduction of smart metering, statutory independent undertakings (SIUs), enhanced physical site security and the impact of new street works legislation.

RIIO-GD1 controllable totex trends and performance

5.7. As part of our analysis we have compared the companies' first year performance and forecast against both the totex allowance we set and the business plans they submitted to inform our RIIO-GD1 final proposals. Table 5.1 shows variances for the first year and the RIIO-GD1 forecast.

Table 5.1: Totex variances

| Period | Business plan forecasts | Allowance | Actuals/ forecasts | Business plans vs allowances | Allowances vs actuals/ forecasts | Business plans vs allowances | Allowances vs actuals/ forecasts |
|-----------------|-------------------------|-----------|--------------------|------------------------------|----------------------------------|------------------------------|----------------------------------|
| | £m | £m | £m | £m | £m | % | % |
| 2013-14 | 2,415.5 | 2,151.4 | 1,799.3 | (264.1) | (352.1) | -11% | -16% |
| RIIO-GD1 | 19,274.8 | 16,765.1 | 14,889.3 | (2,509.7) | (1,875.8) | -13% | -11% |

5.8. When the companies submitted their business plans in April 2012 they requested a total expenditure of £19.3 billion, however in our final proposals we set totex £2.5 billion lower as a result of making the following adjustments:

- GDNs' unit costs and workloads - £1.86 billion reduction
- Real price effects (RPEs) assumptions - £0.197 billion reduction
- Ongoing efficiencies - £0.410 billion reduction
- IQI - £0.141 billion increase

5.9. The forecast outperformance of £1.9 billion compared with allowance is a result of:

- delivering outputs more efficiently, which we estimate to be 1.06 billion
- the advantages of real price effects being lower than those used in setting the price control, which we estimate to be around £0.6 billion, and
- the slower recovery of the economy leading to a reduced workload in connecting new consumers, which we estimate to be around £0.25 billion.

5.10. Table 5.2 sets out the allowed cost for each GDN with their first year's actual costs and their forecasted expenditure for the RIIO-GD1 period.

Table 5.2: GDN totex – allowed versus actuals/forecast (2013-14 prices)

| Company | GDN | Allowed 2014 | Actual 2014 | Variance | Allowed RIIO-GD1 | Forecast RIIO-GD1 | Variance |
|-----------------|-----|----------------|----------------|------------|------------------|-------------------|------------|
| | | £m | £m | % | £m | £m | % |
| NGGD | EoE | 325.3 | 299.6 | 8% | 2,468.6 | 2,321.5 | 6% |
| | Lon | 274.7 | 236.1 | 14% | 2,282.2 | 2,058.9 | 10% |
| | NW | 246.1 | 220.3 | 10% | 1,861.4 | 1,721.0 | 8% |
| | WM | 185.8 | 160.9 | 13% | 1,462.5 | 1,304.9 | 11% |
| NGN | NGN | 243.3 | 209.2 | 14% | 1,955.2 | 1,639.0 | 16% |
| SGN | Sc | 203.9 | 143.8 | 29% | 1,569.4 | 1,312.9 | 16% |
| | So | 416.7 | 312.9 | 25% | 3,200.0 | 2,696.4 | 16% |
| WWU | WWU | 255.5 | 216.5 | 15% | 1,965.8 | 1,834.7 | 7% |
| Industry | | 2,151.4 | 1,799.3 | 16% | 16,765.1 | 14,889.3 | 11% |

5.11. In the first year companies' actual costs have been affected by the following:

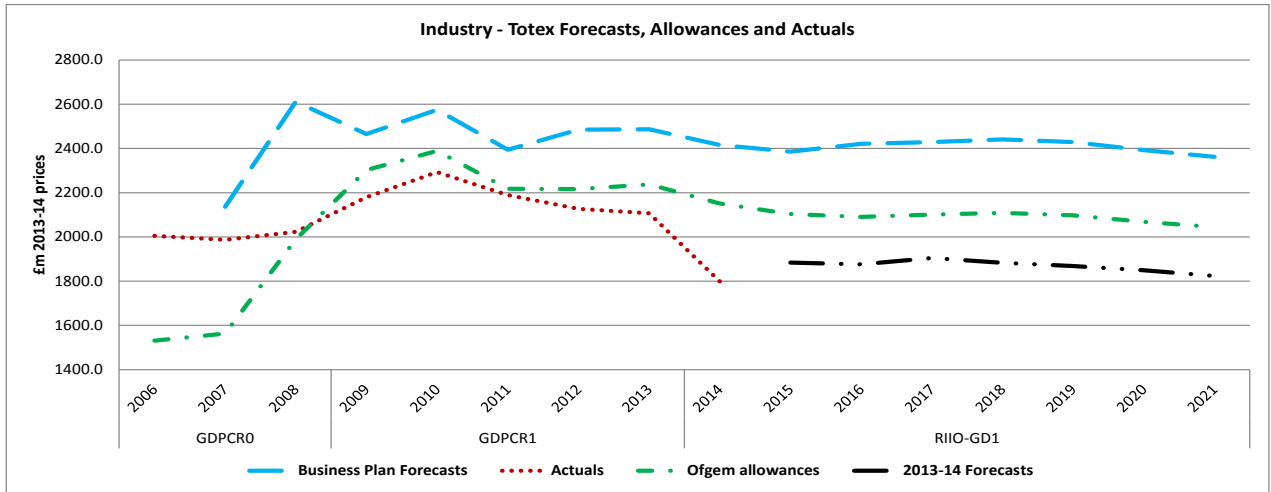
- A relatively mild winter, reducing the adverse effects of cold weather on network assets.
- A slower recovery of the economy than expected when we set the price control. This has delayed the need for load-related expenditure and reduced the anticipated demand for new gas supply connections.
- SGN have highlighted reduced expenditure in year one due to planning and strategic design of their asset programme - which they expect to deliver over the RIIO-GD1 period.
- NGGD, SGN and WWU are replacing a higher proportion of smaller diameter mains than they have historically delivered or forecast in their RIIO-GD1 submitted business plans. They are still delivering the required risk reduction and HSE mandated workload, but costs may be higher in future years.

5.12. We are currently reviewing how NGGD have treated costs associated with demolition (and associated statutory remediation) of former low pressure gas holders to ensure these have been properly declared and accounted for. In 2013-14 NGGD reported £47 million of costs associated with holder demolition and associated statutory remediation. As with any costs, if we are not satisfied with how they have been reported we have mechanisms that allow us to make adjustments to a GDNs' totex allowance, and ultimately their allowed revenue.

5.13. Companies have detailed in their annual reports changes to their organisational structures and initiatives that enable them to focus on delivering their price control obligations and maximise benefits through the incentives available to them.

5.14. Requested, allowed and actual expenditure is put into context by comparing them with historical levels. Figure 5.1 shows the increased investment that was allowed and required following network sales in 2005. Since 2011 totex has fallen and is forecast to remain stable throughout the remainder of the RIIO-GD1 period.

Figure 5.1: Industry controllable totex forecasts, allowances and actuals trends



5.15. We will continue to monitor the GDNs totex performance throughout RIIO-GD1 and will consider this factor in setting future price controls.

Non-controllable costs

5.16. In addition to the totex allowances described above, companies incur costs which are not directly within their control. We allow the companies to pass these costs through to revenue in the year in which they occur. Non-controllable costs are:

- Licence fees
- Network rates
- NTS exit charges
- The cost price of gas used to calculate the cost of shrinkage²⁵
- NTS pension contributions

5.17. At the start of the price control we assessed these as being £5 billion over the RIIO-GD1 period, but we make an annual adjustment to revenue to reflect the actual cost. Table 5.3 sets out allowed costs compared against updated actuals/forecasts.

²⁵ The volume of gas lost through shrinkage is within companies’ control and is therefore not subject to pass-through. This is explained in Chapter 3 (Outputs).

Table 5.3: Non-controllable costs

| | 2013-14 | | | | RIIO-GD1 | | | |
|-----------------------|--------------|-----------------------|-------------|-----------|----------------|-----------------------|--------------|--------------|
| | Allowed | Actuals/ forecasts | Variance | Variance | Allowed | Actuals/ forecasts | Variance | Variance |
| | £m | £m | £m | % | £m | £m | £m | % |
| Total | 626.0 | 645.3 | 19.3 | 3% | 4,978.4 | 4,972.5 | (5.9) | -0.1% |
| <i>of which</i> | | | | | | | | |
| Licence/network rates | 305.5 | 357.0 | 51.5 | 17% | 2,445.7 | 2,688.1 | 242.4 | 10% |
| NTS exit costs | 195.8 | 180.0 | (15.8) | -8% | 1,574.2 | 1,510.8 | (63.3) | -4% |
| Shrinkage | 83.4 | 67.3 | (16.2) | -19% | 628.1 | 444.0 | (184.1) | -29% |
| Pensions | 41.3 | 41.1 | (0.2) | -1% | 330.4 | 329.5 | (0.9) | -0.3% |

Measuring companies' cost efficiency

5.18. The GDNs are monopoly businesses and it is not possible to introduce effective competition in the sector. In the absence of natural competition we benchmark companies' costs to establish efficient levels of expenditure. This enables us to identify the most efficient companies and helps us calculate future price control settlements. We also intend to develop and use benchmarking techniques to monitor companies' relative performance throughout the price control period.

5.19. In setting the price control for RIIO-GD1 we used combined top-down totex and bottom-up disaggregated approaches using the following drivers:

- modern equivalent asset value (MEAV)
- mains replacement workload
- connections workload
- the number of mains and services condition reports
- public reported escapes

5.20. We do not consider it appropriate to use this approach to monitor performance through the price control in the future. It does not provide a fair reflection of efficiencies that can be achieved without the constraints of separate operating, capital and replacement expenditure performance. Performance under the RIIO model is essentially about the overall total expenditure incurred to deliver outputs rather than specific work activities. We will develop new benchmarking tools and consider their effectiveness in order to better reflect the RIIO regulatory model.

5.21. Therefore, we have not published cost efficiency benchmarking results in this report for either totex or disaggregated cost categories.

Dealing with uncertainty

In the first year of RIIO-GD1 none of the companies submitted any claims relating to uncertainty mechanisms. However, some companies have indicated they may request additional totex funding in May 2015 in relation to streetworks and enhanced physical site security.

5.22. We will assess any claims and make our decision on any change to totex by the end of September 2015.

5.23. We are also undergoing a review of the fuel poor network extension scheme and a review into funding arrangements for Xoserve.²⁶

²⁶ Xoserve delivers transportation transactional services on behalf of the gas network companies, and provides one service point for gas shippers.

6. Financial performance

This chapter presents the opening and closing position of the regulatory asset value for RIIO-GD1 and the GDNs return on regulatory equity (RoRE) performance. It also identifies the key RoRE performance drivers.

Regulatory asset value

6.1. Regulatory asset value (RAV) is the value of capital investment in networks used to calculate the price control allowances in RIIO-GD1. The opening RAV balance for each GDN for RIIO-GD1 comprises the closing RAV balance from GDPCR1 and RAV additions representing capitalised expenditure. The relevant capitalisation rates for the GDNs were set at RIIO-GD1 final proposals²⁷.

6.2. The price control allows licensees a return on RAV and return of money invested in the RAV, which is made up of:

- Base revenue allowance is the return to compensate the risk and opportunity cost borne by shareholders, and the efficient cost of financing provided by debt holders, who collectively fund the capital investment (the weighted average cost of capital or 'WACC')
- The vanilla WACC comprises:
 - Post-tax real cost of equity percentage (6.7%) fixed for eight years,
 - Notional gearing percentage weighting (65%) fixed for eight years, and
 - Pre-tax allowed cost of corporate debt percentage (CDE). We determine the CDE at the start of GD1 as the simple ten year trailing average of the iBoxx²⁸ indices. This is updated annually as part of the annual iteration process. In 2013-14, 2014-15 and 2015-16 CDE has been determined as 2.92%, 2.72% and 2.55% respectively²⁹. This methodology ensures that WACC moves in line with the efficient cost of debt financing available in the capital markets.
- An allowance to reflect depreciation of assets, which broadly reflects the annualised cost of maintaining assets. Depreciation allowances are deducted from the RAV.

²⁷ Totex capitalisation rates determined for each GDN at GD1 Final Proposals can be seen in Table 2.4 of the Finance and Uncertainty document. Non-repex is capitalised in the RAV as 'slow money' (enters the RAV in the year after it is incurred) using a uniform rate across the 8 years whereas repex is capitalised in the RAV as 'slow money' starting at 50% in 2013-14, increasing by instalments of 7.14% per annum to 100% in 2020-21.

²⁸ Markit iBoxx cash bond indices are designed to replicate investible investment grade and high yield fixed income markets.

²⁹ The CDE for 2013-14 was published in GD1 Final Proposals and for 2014-15 and 2015-16 in the respective AIP determinations in Nov 2013 and Nov 2014.

6.3. Table 6.1 shows an increase in the opening RAV at the end of the price control year 2013-14. The closing RAV is calculated as:

opening RAV **plus** RAV additions (net of disposals) **less** RAV depreciation.

Table 6.1: RIIO-GD1 RAV movements schedule 2013-14

| | NGGD | | | | | NGN | SGN | | WWU | Industry |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| | EoE | Lon | NW | WM | NGGD | NGN | Sc | So | WWU | Total |
| | £m | £m | £m | £m | £m | £m | £m | £m | £m | £m |
| Opening RAV - 1 April 2013) | 2,958 | 1,918 | 2,033 | 1,542 | 8,450 | 1,840 | 1,490 | 3,340 | 1,879 | 17,000 |
| Legacy RAV adjustments | (4) | (6) | (15) | (6) | (32) | (16) | 8 | (0) | 3 | (38) |
| Adjusted opening RAV | 2,954 | 1,911 | 2,018 | 1,536 | 8,418 | 1,824 | 1,498 | 3,340 | 1,881 | 16,962 |
| Transfers | - | - | - | - | - | - | - | - | - | - |
| RAV additions (after disposals) | 125 | 106 | 100 | 63 | 393 | 95 | 73 | 153 | 99 | 813 |
| Depreciation | (144) | (95) | (101) | (76) | (416) | (92) | (76) | (166) | (93) | (843) |
| Closing RAV - 31 March 2014 | 2,934 | 1,922 | 2,017 | 1,522 | 8,396 | 1,827 | 1,495 | 3,327 | 1,887 | 16,932 |
| Forecast RAV at end of RIIO-GD1 | 2,862 | 2,215 | 2,028 | 1,549 | 8,654 | 1,975 | 1,570 | 3,511 | 2,026 | 17,737 |

Return on regulatory equity

6.4. We consider it is important to understand how well our approach in price control reviews encourages behaviours that are aligned to customers' interests. This will help us to identify ways in which we could improve settlements and associated incentives.

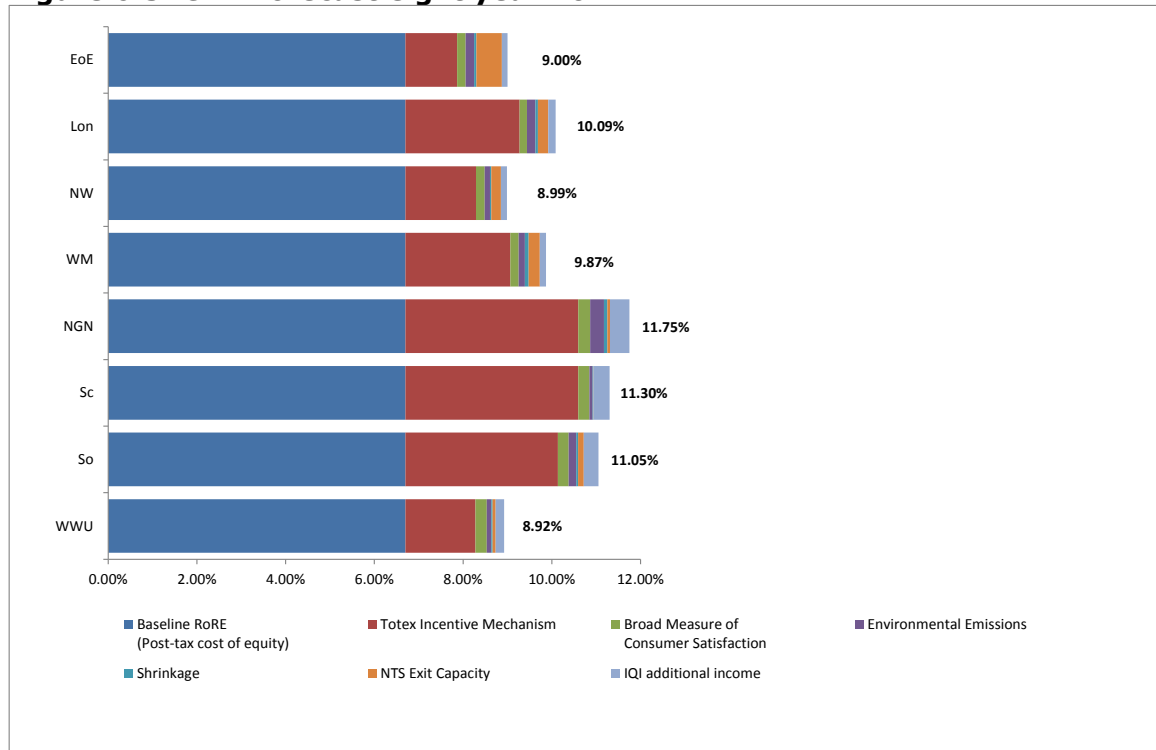
6.5. A useful way to gain an overall picture of how companies are performing under the control is to make an assessment of each company's return on regulatory equity (RoRE), compared to the assumed return used in setting allowed revenues.

6.6. As part of the price control negotiation we said that GDNs could achieve double-digit returns on regulatory equity (RoRE) for exceptional performance. Based on GDNs forecast performance for the RIIO-GD1 period we have calculated that returns will range from 8.9% to 11.8%, with NGGD's London network, NGN, and SGN exceeding 10%. We will continue to monitor GDNs performance to ensure they deliver the outputs they have committed to over the full RIIO-GD1 period. Table 6.2 shows the composition of the forecast eight year average RoRE for each of the GDNs:

Table 6.2: GDN forecast eight year RoRE

| Company | GDN | Baseline RoRE (post-tax cost of equity) | Totex Incentive Mechanism | Output Incentives | | | | IQI additional income | Eight year RoRE |
|---------|-----|---|---------------------------|--|-------------------------|-----------|-------------------|-----------------------|-----------------|
| | | | | Broad Measure of Consumer Satisfaction | Environmental Emissions | Shrinkage | NTS Exit Capacity | | |
| NGGD | EoE | 6.70% | 1.16% | 0.19% | 0.19% | 0.05% | 0.57% | 0.13% | 9.00% |
| | Lon | 6.70% | 2.57% | 0.16% | 0.19% | 0.05% | 0.23% | 0.17% | 10.09% |
| | NW | 6.70% | 1.59% | 0.19% | 0.12% | 0.03% | 0.22% | 0.14% | 8.99% |
| | WM | 6.70% | 2.36% | 0.19% | 0.14% | 0.09% | 0.25% | 0.14% | 9.87% |
| NGN | NGN | 6.70% | 3.90% | 0.27% | 0.31% | 0.08% | 0.06% | 0.44% | 11.75% |
| SGN | Sc | 6.70% | 3.90% | 0.25% | 0.07% | 0.02% | 0.00% | 0.36% | 11.30% |
| | So | 6.70% | 3.44% | 0.24% | 0.17% | 0.04% | 0.12% | 0.33% | 11.05% |
| WWU | WWU | 6.70% | 1.58% | 0.25% | 0.10% | 0.03% | 0.07% | 0.19% | 8.92% |

Figure 6.3: GDN forecast eight year RoRE



6.7. Regulatory equity represents the proportion of average annual RAV that is funded by shareholders (also known as 'Equity RAV'). This is based upon the notional gearing of 65% set at Final Proposals which results in an equity proportion of 35% for the eight GDNs.

6.8. Returns represent the post-tax cost of equity set at final proposals plus revenue adjustments. Including:

- *Totex incentive mechanism* – the incentive represents the percentage that a licensee bears in respect of an overspend against allowances or retains in respect of an underspend against allowances, as explained in chapter two.
- *IQI income reward/penalty* – A reward or penalty set at RIIO-GD1 Final Proposals, which reflects the accuracy and quality of the business plans submitted by the licensee.
- *Output incentives* – Covering customer satisfaction, environmental emissions, gas shrinkage and NTS exit capacity, as explained in chapter three.

6.9. It is important to note that the RoRE we have calculated for each licensee at the end of 2013-14 is an estimate of the average annual return³⁰ that shareholders could expect over the eight year price control period. It incorporates actual totex incurred in 2013-14 plus the seven year forecast for 2014-15 to 2020-21. This data is consistent with the latest expenditure figures published in the GDNs' annual reports and reflects an expectation of how GDNs will perform in delivering outputs over the price control period.

6.10. RIIO-GD1 is an eight-year price where GDNs have committed to delivering agreed outputs over the full period. The timing of delivery of these outputs, and their costs, may vary between GDNs. We therefore consider it appropriate to publish the full eight-year forecast RoRE.

6.11. The totex forecast assumes that all related outputs will be delivered within the eight year price control period.

6.12. The eight year RoRE calculation incorporates actual incentive performance for 2013-14 and forecast incentive performance up to 2016-17. These are collected as revenue after a two year lag and were reported in the January 2015 MOD 186 reports published by the Joint Office of Gas Transporters³¹. The GDNs have not made forecasts for 2017-18 to 2020-21. Therefore we have assumed that incentives for this period will be the average of actual and forecast incentive performance of the first four years of the price control.

6.13. We will continue to monitor the forecast eight-year RoRE annually.

³⁰ Arithmetic average

³¹ The Joint Office of Gas Transporters (JOGT) is an industry group responsible for administering governance of the processes for modifying the commercial regime which underpins the GB gas industry. The MOD 186 Revenue Reports, which provide detailed revenue forecasts for each GDN can be viewed on the [Joint Office website](#).

Appendices

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Appendix 1 – Bill impact methodology

1.1. Throughout RIIO-GD1 we will assess the gas distribution element of the customer's bill based on information the GDNs provide on the [Joint Office](#) website for revenue and charges. As part of this they also forecast future revenue.

1.2. We have developed, with the GDNs, a methodology that uses a consistent approach, including inputs. The inputs are shown in Table A1.1.

Table A1.1: Bill impact inputs

| Company | GDN | AQ | Load Factor | SOQ |
|---------|-----|--------|-------------|-----|
| NGGD | EoE | 15,300 | 32.1% | 135 |
| | Lon | 15,300 | 30.7% | 137 |
| | NW | 15,300 | 34.1% | 123 |
| | WM | 15,300 | 30.0% | 140 |
| NGN | NGN | 15,300 | 33.4% | 126 |
| SGN | Sc | 15,300 | 37.2% | 113 |
| | So | 15,300 | 28.8% | 145 |
| WWU | WWU | 15,300 | 30.9% | 135 |

- Annual quantity (AQ) – as per Ofgem's current published average domestic consumption kWh
- Load factor – consistent with Energy Networks Association (ENA): [Proposed Load Factors: Oct 2014 to Sept 2015](#)
- SOQ – derived by GDNs from the load factor

1.3. GDNs have used their actual revenue for 2013-14 and forecast revenue to the end of RIIO-GD1. Revenue includes base revenue, pass through cost, known or forecast incentives and known adjustments. All revenue and prices are in 2013-14 prices.

1.4. Where a GDN has more than one local distribution zone (LDZ), (eg East of England has East Anglia (EA) and East Midlands (EM)) we have used a weighted average load factor based on customer numbers.

1.5. The customer bill impact shown in chapter two excludes exit capacity charges (the LDZ ECN charge).

1.6. The average domestic customer bill is representative for each GDN using consistent assumptions which may differ from the assumptions used in companies' own published information.

1.7. Stakeholders can understand the charges by using the [Joint Office transportation charge calculator](#) and enter the following inputs shown in table A1.2.

Table A1.2: Joint Office transportation calculator

| Question | Enter |
|--|----------------------------------|
| Where are you entering gas into the system? | National balancing point (NBP) |
| Where are you transporting gas to? | Distribution/CSEP connected load |
| Please input the full postcode | Enter post code |
| Are you a shorthaul tariff? | No |
| Please enter your ratio of throughput for the period Oct-Apr | Enter load factor for your GDN |
| What type of load is the site? | Non daily metered site |
| Is the site monthly read? | No |
| Annual AQ kWh/annum (AQ) | 15,300 |
| SOQ calculation method | EUC code entry |
| EUC code | xx:E1401B |

Appendix 2 – Safety secondary deliverables

1.1. Safety secondary deliverables are indicators that help to confirm that activities undertaken to decommission or otherwise improve the safety risk of the network's iron mains infrastructure are working in practice. The secondary deliverables relate to:

- length of mains off risk (km)
- numbers of pipe fractures and corrosion failures from iron mains
- number of occurrences of 'gas in buildings' events caused by iron mains
- number of incidents
- number of steel service pipes decommissioned.

1.2. Ultimately, safety-driven activities on network assets are undertaken to prevent incidents which can lead to damage to buildings, injuries and fatalities. While we monitor the occurrence of actual incidents, this is in itself an unhelpful measure to confirm the progressive improvement in safety risk achieved through an ongoing programme of network interventions. However, we use a range of indicators related to the safety of the network to demonstrate the extent of safety improvement trends.

1.3. Companies forecasted trends for these indicators in their RIIO-GD1 business plans and the safety secondary deliverables are based on these indicators. We expect these deliverables to be met by the end of the RIIO-GD1 period, supporting the achievement of companies' primary risk reduction commitments.

1.4. The relatively mild winter reduced the adverse effects of cold temperatures on network assets. This meant that pipe fractures and failures were lower than would have been expected in a seasonally normal winter. This condition would be expected to statistically lead to lower numbers of iron mains related gas in buildings (GIB) occurrences and the number of incidents. We examine companies' reported figures in the following sections to see how this turned out in practice.

Length of iron mains off-risk

1.5. The amount of safety risk connected with the integrity of iron mains is broadly proportional to the length of iron mains in service within a network. It is fundamentally the decommissioning of iron mains that reduces the safety risk.

1.6. Table A2.1 shows that some GDNs did not achieve the length of iron mains removed from risk that was expected by the end of the first year. However, GDNs do not have an annual length commitment for taking iron mains off-risk and they can still meet their overall delivery level by the end of the price control period.

Table A2.1: Length of iron mains off risk

| Company | GDN | Secondary deliverable | | 2014 actual delivery | |
|---------|-----|---|--|---|---|
| | | Overall RIIO-GD1 secondary deliverable (km) | Annual average from interpolation of the 8 year deliverable (km) | Actual 2014 length of iron mains abandoned (km) | Variance of 2014 actual abandonment against 2014 expected secondary deliverable |
| NGGD | EoE | 4,798 | 600 | 564 | -5.9% |
| | Lon | 2,888 | 361 | 312 | -13.5% |
| | NW | 3,491 | 436 | 421 | -3.5% |
| | WM | 2,674 | 334 | 313 | -6.5% |
| NGN | NGN | 3,992 | 499 | 485 | -2.7% |
| SGN | Sc | 1,993 | 249 | 252 | 1.0% |
| | So | 5,491 | 686 | 765 | 11.4% |
| WWU | WWU | 2,876 | 359 | 359 | 0.0% |

1.7. GDNs must decommission all tier one (smaller diameter) iron mains within 30m of a property by 2032 under the HSE iron mains risk reduction policy. Tier one pipes represent around 95% of the 'at risk' iron mains population. We have calculated that at the current rate of abandonment of tier one pipes, all GDNs are on target to meet this requirement. The secondary deliverable mains 'off risk' length includes iron mains of all diameters. A lower than expected level of activity in NGGD, SGN and WWU networks (all but NGN), for the larger diameter tier two and tier three mains in 2013-14 will have contributed to the under-delivery of mains length off risk.

1.8. Table A2.2 shows the expected and actual delivery of tier two and tier three mains. Companies have said the lower than expected delivery of tier two and tier three mains abandonment is because they have been planning the more efficient delivery of these higher and more costly mains in the first year. We will continue to monitor the level of mains abandonment in diameter tiers two and three while being aware that there may be opportunities to implement innovative techniques that prevent the need for full scale abandonment.

Table A2.2: Tier two and three workloads – actuals versus expected

| Company | GDN | Assumed workload in setting RIIO-GD1 final proposals | | 2014 actual delivery | |
|---------|-----|--|---|---|---|
| | | Total RIIO-GD1 8 year workload (km) | Annual average from interpolation of the 8 year workload (km) | Actual 2014 length of iron mains abandoned (km) | Variance of 2014 actual abandonment against 2014 assumed workload |
| NGGD | EoE | 141 | 17.6 | 2.0 | -88.8% |
| | Lon | 274 | 34.3 | 1.3 | -96.2% |
| | NW | 195 | 24.4 | 13.1 | -46.4% |
| | WM | 99 | 12.4 | 3.9 | -68.8% |
| NGN | NGN | 285 | 35.6 | 35.8 | 0.6% |
| SGN | Sc | 156 | 19.5 | 0.5 | -97.5% |
| | So | 269 | 33.6 | 5.3 | -84.2% |
| WWU | WWU | 238 | 29.8 | 23.1 | -22.6% |

Fractures and failures

1.9. The failure mechanism for iron mains is brittle cast iron fracture and the corrosion of ductile iron – both of which can lead to significant gas escapes developing over a relatively short period of time, requiring urgent action. These types of failure mechanisms are the main concern for the safety of iron gas mains and the driver for the iron mains risk reduction policy.

1.10. It is known that the frequency of iron mains failures is related to ambient temperature, and the relatively mild winter experienced in 2013-14 resulted in a significantly lower number of failures than were forecast in all GDNs. Table A2.3 sets out actuals versus average annual deliverable.

Table A2.3: Number of fractures and failures 2013-14

| Company | GDN | RIIO-GD1 deliverable | Average annual delivery to meet deliverable | Actual delivery 2014 |
|-----------------|-----|----------------------|---|----------------------|
| NGGD | EoE | 13,517 | 1,690 | 999 |
| | Lon | 4,039 | 505 | 278 |
| | NW | 12,527 | 1,566 | 755 |
| | WM | 7,494 | 937 | 561 |
| NGN | NGN | 21,936 | 2,742 | 815 |
| SGN | Sc | 10,398 | 1,300 | 455 |
| | So | 12,887 | 1,611 | 1,077 |
| WWU | WWU | 8,529 | 1,066 | 581 |
| Industry | | 91,327 | 11,416 | 5,521 |

Gas in building events

1.11. Gas in building (GIB) events are the pre-cursor of an incident which may cause structural damage to buildings, personal injuries and fatalities.

1.12. We expect incidences of such events to trend downwards as iron mains risk is progressively reduced. Therefore it is a useful lagging indicator of the achievement of the iron mains primary safety output.

1.13. Table A2.4 shows 2014 secondary deliverables against the 2014 actual number of GIB events. We have indicated the annual secondary deliverable using a linear interpolation of the eight year deliverable. This may not be an entirely fair representation of the level to be expected because ongoing iron mains abandonment work means that a non-linear outturn is likely to occur. That will mean a higher number in the earlier years of the price control period than in the later years. We also acknowledge that effects from outside the model, such as weather conditions,

affect annual figures and longer term trends provide better indications of underlying network characteristics.

Table A2.4: Secondary deliverable level and actual numbers of gas in buildings occurrences

| Company | GDN | RIIO-GD1 secondary deliverable | Annual average from interpolation of the 8 year deliverable | Actual delivery 2014 |
|---------|-----|--------------------------------|---|----------------------|
| NGGD | EoE | 911 | 114 | 74 |
| | Lon | 329 | 41 | 24 |
| | NW | 1,069 | 134 | 54 |
| | WM | 633 | 79 | 47 |
| NGN | NGN | 1,153 | 144 | 56 |
| SGN | Sc | 525 | 66 | 33 |
| | So | 605 | 76 | 64 |
| WWU | WWU | 550 | 69 | 37 |

Incidents

1.14. There were two incidents reported relating to iron mains. They were

- a fractured four inch iron main in Bletchley, Milton Keynes. (SGN Southern) (extensive property damage and injuries to one person)
- a fractured six inch iron main in Milford Haven (WWU) (property damage and minor burn injuries to one person).

Decommissioning steel service pipes

1.15. Steel service pipes are routinely decommissioned when they require any work, whether this is for customer-led reasons such as moving meter positions, attending to escapes or transferring them to a new main. This is because the corrosion of the material is known to represent a safety hazard and the scale of the work requires high investment.

1.16. Table A2.5 shows that NGGD and Southern GDNs have undertaken more domestic service replacement activities than the average annual RIIO-GD1 deliverable. NGN, Scotland and WWU GDNs undertook a lower number of domestic service replacements.

Table A2.5: Number of domestic service replacements - 2013-14

| GDN | Replacement in conjunction with service alterations | Replacement after escape | Replacement associated with smart metering | Replacement in conjunction with mains replacement | Other service replacement | Total | Annual average from interpolation of the 8 year deliverable | Variance % |
|-----|---|--------------------------|--|---|---------------------------|--------|---|------------|
| EoE | 2,423 | 2,910 | 0 | 25,617 | 2,458 | 33,409 | 30,377 | 10.0% |
| Lon | 769 | 3,665 | 0 | 25,093 | 1,819 | 31,346 | 21,481 | 45.9% |
| NW | 1,109 | 4,677 | 0 | 26,588 | 2,303 | 34,677 | 28,383 | 22.2% |
| WM | 740 | 2,895 | 0 | 19,668 | 2,246 | 25,549 | 21,125 | 20.9% |
| NGN | 1,286 | 4,461 | 0 | 21,938 | 1,620 | 29,305 | 30,932 | -5.3% |
| Sc | 153 | 1,795 | 0 | 9,425 | 0 | 11,373 | 13,224 | -14.0% |
| So | 1,963 | 7,845 | 0 | 49,613 | 0 | 59,421 | 49,574 | 19.9% |
| WWU | 697 | 4,138 | 0 | 16,861 | 690 | 22,386 | 25,209 | -11.2% |

Appendix 3 – Maintaining operational performance - secondary deliverables

1.1. Maintaining operational performance is measured through six secondary deliverables:

- Number and value of offtake meter errors - annual commitment
- Duration of telemetry faults - annual commitment
- PSSR fault rate - annual commitment
- Gas holder demolition - eight year commitment
- Maintenance of network records - annual commitment
- Health, criticality and risk metrics - eight year commitment.

Number and value of offtake meter errors

1.2. All GDNs achieved a level of offtake metering errors significantly within the required limit of 0.1% of throughput. Only EoE, NGN and WWU reported errors, the remaining GDNs having none.

Duration of telemetered faults

1.3. This output provides a commitment to limit the duration of faults detected by telemetry systems. Telemetry provides the companies with continuous data on the operational state of the remote, unmanned outstations and will report faults to the distribution control centres.

1.4. As shown in table A3.1 all GDNs achieved a level of performance significantly within their output commitments with the exception of SGN's So GDN.

Table A3.1: Duration of telemetered faults

| Company | GDN | Measure | Hours per AGI |
|-----------------|------|--------------------------|---------------|
| NCGD | NCGD | Deliverable limit | 127 |
| | | Actual 2014 | 103 |
| NGN | NGN | Deliverable limit | 211 |
| | | Actual 2014 | 105 |
| SGN | Sc | Deliverable limit | 238 |
| | | Actual 2014 | 140 |
| | So | Deliverable limit | 134 |
| | | Actual 2014 | 297 |
| WWU | WWU | Deliverable limit | 181 |
| | | Actual 2014 | 16 |
| Industry | | Deliverable limit | 1,272 |
| | | Actual 2014 | 660 |

PSSR fault rate

1.5. As shown in table A3.2 all GDNs with the exception of WWU reported that their PSSR fault performance outperformed their secondary deliverable. WWU has raised a query concerning the method of reporting the PSSR measure and we are discussing this with all companies. We are working with WWU to understand their specific issues and ensure reliability deliverables are achieved.

Table A3.2 Number of PSSR faults

| Company | GDN | Measure | Fault rate |
|----------|--------------------------|-------------------|-------------|
| NGGD | EoE | Deliverable limit | 8.0% |
| | | Actual 2014 | 5.0% |
| | Lon | Deliverable limit | 9.0% |
| | | Actual 2014 | 4.0% |
| | NW | Deliverable limit | 18.0% |
| | | Actual 2014 | 11.0% |
| | WM | Deliverable limit | 6.0% |
| | | Actual 2014 | 5.0% |
| NGN | NGN | Deliverable limit | 51.0% |
| | | Actual 2014 | 42.6% |
| SGN | Sc | Deliverable limit | 35.6% |
| | | Actual 2014 | 22.3% |
| | So | Deliverable limit | 20.9% |
| | | Actual 2014 | 19.4% |
| WWU | WWU | Deliverable limit | 7.3% |
| | | Actual 2014 | 48.1% |
| Industry | Deliverable limit | | 156% |
| | Actual 2014 | | 157% |

Gas holder demolition

1.6. GDNs have a programme for gas holder demolition, made possible by the availability of alternative diurnal storage.³²

1.7. We are monitoring progress towards the agreed number of gas holders being demolished, alongside reliability outputs for assessment at the end of the period. There are no formal annual output commitments.

³² Diurnal storage is required to manage within-day fluctuations in gas demand. Storage may be provided using vessels, for example low pressure gas holders, or the pressurisation and depressurisation of pipelines, which is known as linepack.

1.8. Table A3.3 below compares the actual and assumed number of sites demolished in the first year, together with the output level of sites for demolition and companies' forecast number by the end of the RIIO-GD1 period.

Table A3.3: Low pressure holder demolition

| Company | GDN | 2014 | RIIO-GD1 | |
|-----------------|-----|-----------|-------------------|------------|
| | | Actual | Target | Forecast |
| NGGD | EoE | 9 | 29 to 30 | 29 |
| | Lon | 1 | 32 to 33 | 33 |
| | NW | 0 | 35 | 35 |
| | WM | 0 | 4 to 5 | 4 |
| NGN | NGN | 1 | 23 to 24 | 23 |
| SGN | Sc | 0 | 11 | 12 |
| | So | 3 | 44 to 45 | 50 |
| WWU | WWU | 2 | 7 to 8 | 10 |
| Industry | | 16 | 185 to 191 | 196 |

1.9. NGGD has reported that ten gas holders have been fully demolished and four partially demolished during 2013-14. However, they have reported costs of £47.4 million associated with the demolition and statutory remediation of 59 holders, with the responsibility to demolish the holders transferred to their related party, National Grid Property (NGP). We are currently reviewing this to confirm that it fully complies with reporting instructions.

Maintenance of network records

1.10. The effective management of the network is reliant on maintaining good technical records of live apparatus and that these records are kept up-to-date.

1.11. GDNs are measured on the time taken to digitise new or abandoned of pipes on their mapping systems. Their performance is summarised in table A3.4.

Table A3.4: Number of business days to digitise network records (% digitised by length)

| Company | GDN | <30 days | <60 days | >60 days |
|---------|-----|----------|----------|----------|
| NGGD | EoE | 45% | 21% | 34% |
| | Lon | 63% | 19% | 18% |
| | NW | 47% | 27% | 26% |
| | WM | 67% | 15% | 19% |
| NGN | NGN | 70% | 14% | 15% |
| SGN | Sc | 98% | 2% | 1% |
| | So | 97% | 1% | 2% |
| WWU | WWU | 96% | 2% | 2% |

1.12. It can be seen that NGGD's GDNs have longer lead times for records to be digitised than other GDNs. Scotland, Southern and WWU are digitizing between 96% and 98% of records within 30 days.

Health, criticality and risk metrics

1.13. Health, criticality and risk metrics are used to monitor the state of network assets in terms of the total of risk around safety, reliability and environment. Companies influence the risk level by carrying out interventions that improve risk, generally by reconditioning or replacing assets or asset sub components.

1.14. Companies were unable to provide a methodology that consistently reports asset health, criticality and risk by the start of RIIO-GD1. We are working with the companies to achieve comparable reporting measures and agree an assessment methodology for managing the risk of network assets.

Appendix 4 – Actions required under the HSE ‘three tier’ iron mains risk reduction policy

1.1. GDNs must comply with the Health and Safety Executive’s published policy for iron mains risk reduction.

1.2. Table A4.1 describes the actions required under each diameter band or ‘tier’.

Table A4.1: Action required by diameter band or tier

| Diameter band | Iron pipe nominal diameter range | Summary of required actions |
|--|---|---|
| Tier 1 mains | 8 inches or less | Must still achieve full decommissioning by 31 March 2032 and replace an agreed length of mains each year as under the old policy but can prioritise replacement based on a wide range of benefits, including reductions in gas losses, operating costs and improvements in safety risk. |
| Tier 2 mains above the risk action threshold | greater than 8 inches and less than 18 inches in diameter | All mains exceeding a defined risk action threshold must, by 31 March 2021, be abandoned, remediated or assessed for continued safe use (tier 2a mains). |
| Tier 2 mains below the risk action threshold | greater than 8 inches and less than 18 inches in diameter | Pipes in tier 2 scoring below the risk-action threshold may be decommissioned where this is justified in cost benefit terms (tier 2b mains). |
| Tier 3 mains | 18 inches or above | GDNs may replace mains if the replacement is justified in cost benefit terms. |

Appendix 5 – Planned and unplanned interruptions performance

Table A5.1: Number of planned interruptions

| Company | GDN | 2014 | | | RIIO-GD1 | | |
|---------|-----|--------|---------|----------|----------|-----------------------|----------|
| | | Target | Actual | Variance | Target | Forecast | Variance |
| NGGD | EoE | 82,188 | 75,537 | 8.1% | 657,504 | No forecast available | |
| | Lon | 51,195 | 59,601 | (16.4%) | 409,561 | | |
| | NW | 68,967 | 61,300 | 11.1% | 551,735 | | |
| | WM | 50,132 | 44,286 | 11.7% | 401,054 | | |
| NGN | NGN | 50,961 | 43,276 | 15.1% | 407,690 | 337,276 | 17.3% |
| SGN | Sc | 35,292 | 29,395 | 16.7% | 282,335 | 282,338 | (0.0%) |
| | So | 85,816 | 101,584 | (18.4%) | 686,526 | 686,532 | (0.0%) |
| WWU | WWU | 56,404 | 53,085 | 5.9% | 451,235 | 444,512 | 1.5% |

Table A5.2: Number of unplanned interruptions

| Company | GDN | 2013-14 | | | RIIO-GD1 | | |
|---------|-----|---------|--------|----------|----------|-----------------------|----------|
| | | Target | Actual | Variance | Target | Forecast | Variance |
| NGGD | EoE | 13,365 | 15,718 | (17.6%) | 106,922 | No forecast available | |
| | Lon | 11,076 | 16,890 | (52.5%) | 88,605 | | |
| | NW | 12,699 | 13,671 | (7.7%) | 101,591 | | |
| | WM | 8,822 | 9,839 | (11.5%) | 70,575 | | |
| NGN | NGN | 8,380 | 11,464 | (36.8%) | 67,040 | 81,464 | (21.5%) |
| SGN | Sc | 2,152 | 6,583 | (205.9%) | 17,217 | 17,215 | 0.0% |
| | So | 8,677 | 25,618 | (195.2%) | 69,417 | 69,414 | 0.0% |
| WWU | WWU | 11,271 | 9,478 | 15.9% | 90,169 | 90,169 | 0.0% |

Table A5.3: Duration of planned interruptions (millions of minutes)

| Company | GDN | 2014 | | | RIIO-GD1 | | |
|---------|-----|--------|--------|----------|----------|-----------------------|----------|
| | | Target | Actual | Variance | Target | Forecast | Variance |
| NGGD | EoE | 38 | 31 | 20.5% | 307 | No forecast available | |
| | Lon | 32 | 32 | 0.8% | 256 | | |
| | NW | 36 | 24 | 31.6% | 286 | | |
| | WM | 25 | 19 | 25.9% | 200 | | |
| NGN | NGN | 28 | 22 | 18.8% | 221 | 180 | 18.3% |
| SGN | Sc | 12 | 11 | 9.6% | 98 | 98 | 0.0% |
| | So | 31 | 54 | (77.6%) | 245 | 244 | 0.3% |
| WWU | WWU | 12 | 13 | (13.7%) | 92 | 92 | (0.0%) |

Table A5.4: Duration of unplanned interruptions (millions of minutes)

| Company | GDN | 2014 | | | RIIO-GD1 | | |
|---------|-----|--------|--------|----------|----------|-----------------------------|----------|
| | | Target | Actual | Variance | Target | Forecast | Variance |
| NGGD | EoE | 6 | 14 | (119.3%) | 50 | No forecast available | |
| | Lon | 14 | 42 | (202.4%) | 111 | | |
| | NW | 10 | 12 | (21.8%) | 78 | | |
| | WM | 6 | 8 | (42.0%) | 48 | | |
| NGN | NGN | 8 | 5 | 38.3% | 62 | 45 | 28.4% |
| SGN | Sc | 15 | 4 | 72.6% | 121 | 121 | 0.0% |
| | So | 23 | 19 | 17.8% | 181 | 177 | 2.5% |
| WWU | WWU | 6 | 6 | (8.6%) | 45 | 43 | 4.8% |

Appendix 6 – Guaranteed standards of performance

Table A6.1: Guaranteed standards of performance – 2013-14

| Guaranteed standard of performance | Target | EoE | Lon | NW | WM | NGN | Sc | So | WWU | Industry |
|--|--------|-----------------|----------------|----------------|----------------|---------------------------------|----------------|----------------|----------------|-----------------|
| Guaranteed Standard 4 - Regulation 10 - Provision of standard connection quotations =<275kWh per hour | 90% | 99.39% | 99.42% | 98.69% | 98.95% | 99.52% | 99.83% | 99.79% | 99.56% | - |
| | - | £1,791 | £370 | £1,850 | £1,860 | £1,590 | £230 | £470 | £2,587 | £10,748 |
| Guaranteed Standard 5 - Regulation 10 - Provision of non-standard connection quotations =<275kWh per hour | 90% | 97.14% | 95.97% | 95.57% | 96.92% | 99.45% | 99.16% | 99.46% | 98.27% | - |
| | - | £1,270 | £1,550 | £800 | £520 | £2,510 | £1,680 | £2,980 | £8,530 | £19,840 |
| Guaranteed Standard 6 - Regulation 10 - Provision of non-standard connection quotations > 275kWh per hour | 90% | 97.67% | 98.01% | 98.75% | 94.20% | 97.52% | 98.73% | 99.01% | 96.50% | - |
| | - | £1,080 | £700 | £280 | £1,040 | £1,660 | £1,680 | £2,220 | £3,340 | £12,000 |
| Guaranteed Standard 7 - Regulation 10 - Accuracy of quotations (percentage of quotations challenged but found to be accurate) | - | 83.33% | 75.00% | 80.00% | 100.00% | No accuracy challenges reported | | | | - |
| | - | £0 | £0 | £0 | £0 | £0 | £0 | £0 | £0 | £0 |
| Guaranteed Standard 8 - Regulation 10 - Response to land enquiries | 90% | 98.80% | 98.81% | 98.51% | 98.64% | 99.46% | 99.33% | 100.00% | 99.81% | - |
| | - | £3,910 | £2,990 | £1,800 | £1,760 | £60 | £40 | £0 | £40 | £10,600 |
| Guaranteed Standard 9 - Regulation 10 - Offering a date for commencement and substantial completion of connection works (= <275kWh per hour) | 90% | 99.14% | 97.34% | 99.02% | 99.53% | 99.56% | 98.94% | 99.66% | 99.96% | - |
| | - | £10,479 | £11,000 | £4,595 | £3,300 | £3,680 | £7,220 | £4,180 | £580 | £45,034 |
| Guaranteed Standard 11 - Regulation 10 - Substantial completion on agreed date | 90% | 92.96% | 92.72% | 97.18% | 93.77% | 97.21% | 98.20% | 98.46% | 94.62% | - |
| | - | £93,814 | £52,613 | £13,360 | £40,686 | £24,107 | £7,011 | £15,608 | £47,170 | £294,369 |
| Standard Special Condition D10(2)(f) Responding to telephone calls | 90% | 93.87% | 93.87% | 93.87% | 93.87% | 93.83% | 93.87% | 93.87% | 93.87% | - |
| | - | - | - | - | - | - | - | - | - | - |
| Total | - | £112,344 | £69,223 | £22,685 | £49,166 | £33,607 | £17,861 | £25,458 | £62,247 | £392,591 |

Appendix 7 – Network innovation allowance summary

1.3. Tables A7.1 – A7.4 summarise the active NIA projects undertaken by the companies in 2013-14.

Table A7.1: Network innovation allowance - NGGD

| NIA by Cost Project | EoE | Lon | NW | WM | NGGD |
|---|-------------|-------------|-------------|-------------|-------------|
| | £m | £m | £m | £m | £m |
| Cured In Place Pipe (CIPP) (Stage 2) | 0.18 | 0.10 | 0.12 | 0.09 | 0.49 |
| CISBOT 18" Cast Iron Demonstration | 0.17 | 0.09 | 0.11 | 0.08 | 0.45 |
| PE Asset Life Research | 0.10 | 0.06 | 0.07 | 0.05 | 0.28 |
| Tier One Replacement System (TORS) Stage 3 | 0.09 | 0.05 | 0.06 | 0.04 | 0.24 |
| Tier One Replacement System (TORS) | 0.08 | 0.05 | 0.05 | 0.04 | 0.22 |
| MEG Improvements (Phase 2b) | 0.07 | 0.04 | 0.05 | 0.03 | 0.19 |
| Demand Scaling | 0.06 | 0.04 | 0.04 | 0.03 | 0.17 |
| Demand Allocation | 0.06 | 0.03 | 0.04 | 0.03 | 0.16 |
| Development of Packaged Solution for Bio-methane Injection | 0.06 | 0.03 | 0.04 | 0.03 | 0.16 |
| Fracture Monitoring using Acoustics | 0.05 | 0.03 | 0.03 | 0.02 | 0.13 |
| Venting Controllers | 0.05 | 0.03 | 0.03 | 0.02 | 0.13 |
| Asset Health Modelling | 0.04 | 0.02 | 0.02 | 0.02 | 0.10 |
| Alternative Jointing Techniques for Small Diameter PE Pipes | 0.03 | 0.02 | 0.02 | 0.02 | 0.09 |
| Iron Mains Condition Assessment System | 0.03 | 0.02 | 0.02 | 0.02 | 0.09 |
| NIC Bid BioSNG | 0.03 | 0.02 | 0.02 | 0.02 | 0.09 |
| Asset Health & Criticality Modelling | 0.03 | 0.02 | 0.02 | 0.01 | 0.08 |
| E-Pipe - Trial Internal Lining Assessment & Development of Small Diameter Pipelines | 0.03 | 0.02 | 0.02 | 0.01 | 0.08 |
| Optomole (Stage 1) | 0.02 | 0.01 | 0.02 | 0.01 | 0.06 |
| PRCI - Pipelines Research Council International | 0.02 | 0.01 | 0.02 | 0.01 | 0.06 |
| Iron Mains Condition Assessment System Phase 3a | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| MEG Improvement | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| Pressure to Gas | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| Seams Analytical Pilot | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| Thin Walled PE Liners | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| Unconventional Gases within the Onshore Gas Networks | 0.02 | 0.01 | 0.01 | 0.01 | 0.05 |
| Diurnal Storage (Phase 2) | 0.01 | 0.01 | 0.01 | 0.01 | 0.04 |
| Risk Assessment Methodologies for Pipelines and AGI's | 0.01 | 0.01 | 0.01 | 0.01 | 0.04 |
| Development of DANINT FWAVC software for New Gas Chromatograph | 0.01 | 0.01 | 0.01 | - | 0.03 |
| Internal Stress Corrosion Cracking (ISCC) Assessment Work | 0.01 | 0.01 | 0.01 | - | 0.03 |
| Orifice Plate Deformation | 0.01 | 0.01 | 0.01 | - | 0.03 |
| Cast Iron Fitness For Purpose (CIFFP) | 0.01 | - | 0.01 | - | 0.02 |
| Resource and Asset Reuse Toolkit | 0.01 | - | 0.01 | - | 0.02 |
| Study of Crater Information Threshold During Gas Leakage on High Pressure Pipes | 0.01 | - | 0.01 | - | 0.02 |
| Development of AGI Safe | 0.01 | - | - | - | 0.01 |
| Customer Self Isolation and restoration (stage 2) | - | - | - | - | - |
| European Pipeline Research Group (EPRG) | - | - | - | - | - |
| Influence of Joint Leaks on MRPS Risk Score | - | - | - | - | - |
| Investment Prioritisation in Distribution Systems | - | - | - | - | - |
| Optimise Own Energy Use | - | - | - | - | - |
| Sealback II | - | - | - | - | - |
| The Impact of Biomethane on Odourisation in Gas Distribution Networks | - | - | - | - | - |
| Total Gross Costs | 1.41 | 0.80 | 0.94 | 0.66 | 3.81 |
| 3rd party income / contribution received | - | - | - | - | - |
| Total Net Costs | 1.41 | 0.80 | 0.94 | 0.66 | 3.81 |

Table A7.2: Network innovation allowance - NGN

| NIA by Cost Project | £m |
|---|-------------|
| Visual & Accoustic Leakage Detection | 0.47 |
| CIPPS | 0.16 |
| Accurate Detection with Minimal Excavation | 0.15 |
| IFI - Predictive Analytics | 0.11 |
| Network Innovation Competition Bid Preparation Costs | 0.07 |
| IFI Study of Potential Sources & Quantities of biomethane | 0.06 |
| Improved Diurnal Storage Model | 0.05 |
| Remote Water Removal System | 0.05 |
| IFI - EIC - Syrinix (Fracture Monitoring Using Acoustics) | 0.04 |
| Smart Document Solutions | 0.03 |
| Gascoseeker | 0.03 |
| Gas PTII | 0.02 |
| IFI - EIC - E-Pipe | 0.02 |
| Investment Prioritisation Dist Systems | 0.02 |
| Asset Health Management | 0.02 |
| IFI - EIC - Orifice Plate Deformation | 0.01 |
| Guided Wave Technology | 0.01 |
| Development of Standards for Bioga | 0.01 |
| TOL | 0.01 |
| IFI - EIC - Optosci (Optomole) | 0.01 |
| Biomethane Connection Guidelines | 0.01 |
| IFI - EIC - ISCC Stress Corrosion Cracking | 0.01 |
| IFI - EIC - DANNIT | 0.01 |
| Cast Iron Fitness-for-Purpose | 0.00 |
| Local Auth & NPG Collaboration on MSB | 0.00 |
| Strategy to Reduce Gas Leakage | 0.00 |
| Self Purge & Relight stage 2 | 0.00 |
| Total Gross Costs | 1.37 |
| 3rd party income / contribution received | - |
| Total Net Costs | 1.37 |

Table A7.3: Network innovation allowance - SGN

| NIA by Cost Project | Sc | So | SGN |
|---|-------------|-------------|-------------|
| | £m | £m | £m |
| NIC BID SUBMISSION -ROBOTICS/OPENING UP GAS MARKETS | 0.03 | 0.07 | 0.11 |
| Large CISBOT | 0.22 | 0.50 | 0.71 |
| Immersion Tube Preheating | 0.19 | 0.44 | 0.64 |
| RCA GPS Survey | 0.17 | 0.40 | 0.57 |
| CIPP (Stage 2) | 0.09 | 0.21 | 0.30 |
| MICROSTOP | 0.09 | 0.20 | 0.28 |
| Orpheus Valve Corrosion Mapping System | 0.05 | 0.12 | 0.18 |
| PE Asset Life Research (Stage 3) | 0.05 | 0.12 | 0.17 |
| Portable Gas In Ducts Sample System | 0.04 | 0.09 | 0.13 |
| Seeker Particles | 0.03 | 0.07 | 0.11 |
| Pneumatic PE Pushing Machine | 0.03 | 0.07 | 0.10 |
| Diurnal Storage Modelling (Stage 2) | 0.02 | 0.05 | 0.07 |
| Energy Innovation Centre Membership 2013-14 | 0.03 | 0.08 | 0.11 |
| Osprey Pressure Validator | 0.02 | 0.04 | 0.05 |
| DANINT (Stage 2) | 0.02 | 0.04 | 0.05 |
| SYRINIX Fracture Monitoring | 0.02 | 0.03 | 0.05 |
| Water Extraction Reel and Branch | 0.01 | 0.03 | 0.05 |
| GECO Pump | 0.01 | 0.02 | 0.03 |
| ePipe | 0.01 | 0.02 | 0.03 |
| Unconventional Gases Within the Onshore Gas Networks | 0.03 | 0.02 | 0.05 |
| Orifice Plate Deformation | 0.01 | 0.02 | 0.03 |
| Tornado Max | 0.01 | 0.02 | 0.03 |
| Bond and Bolt Saddle System | 0.01 | 0.02 | 0.02 |
| Optomole (Stage 1) | 0.01 | 0.01 | 0.02 |
| Self-Amalgamating Tape Field Trials | 0.01 | 0.01 | 0.02 |
| Internal Stress Corrosion Cracking (ISCC) on Pipelines | 0.01 | 0.01 | 0.02 |
| Syntho Trax I-SEAL Robot | 0.01 | 0.01 | 0.02 |
| Investment Prioritisation in Distribution Systems (Stage 1) | 0.01 | 0.01 | 0.02 |
| NIA Smarter Networks Portal | 0.00 | 0.01 | 0.01 |
| Fracture Monitoring Using Acoustics | 0.00 | 0.01 | 0.01 |
| Novel Pressure Reduction Station (Stage 1) | 0.00 | 0.01 | 0.01 |
| Cotter Plate Identification and Remediation | 0.00 | 0.01 | 0.01 |
| Cast Iron Fitness-for-Purpose | 0.00 | 0.01 | 0.01 |
| Unmanned Aerial Vehicle | 0.00 | 0.01 | 0.01 |
| Small Pressure Pot | 0.00 | 0.00 | 0.01 |
| Customer Self Isolation and Restoration (Stage 2) | 0.00 | 0.00 | 0.00 |
| Total Gross Costs | 1.24 | 2.80 | 4.04 |
| 3rd party income / contribution received | - | - | - |
| Total Net Costs | 1.24 | 2.80 | 4.04 |

Table A7.4: Network innovation allowance - WWU

| NIA by Cost Project | £m |
|---|-------------|
| Diurnal Storage (Phase 2) | 0.09 |
| Iron Mains Condition Assessment System Phase 2 | 0.08 |
| NIC Bid preparation costs | 0.05 |
| Iron Mains Condition Assessment System Phase 3a | 0.05 |
| Cured In-Place Pipe (CIPP) (Stage 2) | 0.03 |
| e Pipe – Trial Internal Lining Assessment and Development of Small Diameter Pipelines | 0.02 |
| Internal Stress Corrosion Cracking (ISCC) Assessment Work | 0.02 |
| Unconventional Gases within the Onshore Gas Networks | 0.01 |
| Asset Health & Criticality Modelling | 0.01 |
| Technologies and strategies to reduce gas leakage expenditure profile | 0.01 |
| Customer Self Isolation and Restoration (Stage 2) | 0.01 |
| Investment Prioritisation in Distribution Systems | 0.01 |
| Development of DANINT FWACV software: Gas Chromatograph | 0.01 |
| Acoustek | 0.00 |
| Cast Iron Fitness For Purpose (CIFFP) | 0.00 |
| Total Gross Costs | 0.41 |
| 3rd party income / contribution received | - |
| Total Net Costs | 0.41 |