

nationalgrid



RESPONSIBLE
BUSINESS OF
THE YEAR 2014
BUSINESS IN THE
COMMUNITY

Gas Transmission

Our performance for 2013-14

How to use this document

This booklet will take you through our main activities over 2013/14 against each of our outputs. In the centre pages we have provided a scorecard of our performance against our activities associated with each output. For each activity, we have included what our output is and an indication as to whether we have met, exceeded or not met this output. We provide further detail on our activities under each output in the pages surrounding the scorecard and follow this with a section on what impact this has on domestic customer bills.

This booklet is aimed at anyone with an interest in our Gas Transmission business, including customers, stakeholders or end consumers. In this document, we extensively refer to our customers, which, for Transmission, are different to our Distribution customers. For example, a typical Gas Transmission customer could be a power station, a shipper or a Distribution Network Operator.



How to contact us

If you have a specific question, feedback or an opinion on our RIIO performance booklet, feel free to get in touch with us.

EMAIL: talkingnetworks.transmission@nationalgrid.com

WRITE: Victoria Allen, National Grid House, Warwick Technology Park, Gallows Hill, Warwick CV34 6DA

TALKING NETWORKS WEBSITE:
www.talkingnetworkstx.com



Hello...

Welcome to our first performance booklet under our regulatory regime RIIO (Revenue = Incentives + Innovation + Outputs) for Gas Transmission. In our RIIO contract, we committed to delivering a series of outputs for our customers and stakeholders.

2013/14 has been a strong year for Gas Transmission. We have continued to ensure the public are kept safe, provided customers with 100% reliability of the network and made improvements in our customer satisfaction levels. We have also made good progress in developing our plans that will enable us to continue to deliver a safe and reliable system across the RIIO period, which is at the greatest value to customers.

This booklet shows some examples of how we have performed in the different output areas in the first year of RIIO. I hope it assures you that National Grid continues to deliver a safe, reliable Gas Transmission system that you feel is value for money.

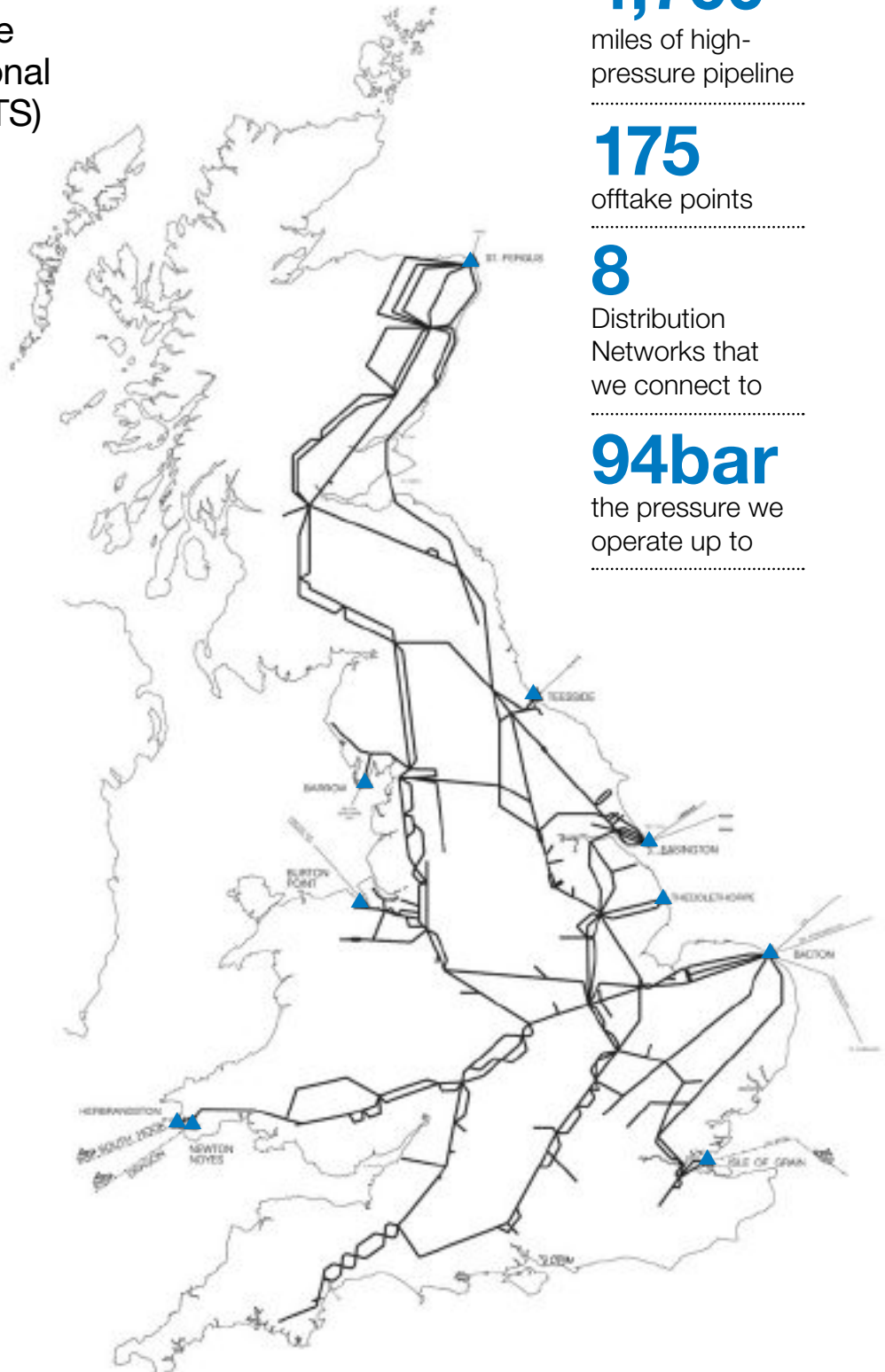
A handwritten signature in black ink that reads 'J. Pettigrew'.

John Pettigrew
Executive Director

Who we are and what we do

We are the owner and the operator of the gas National Transmission System (NTS) in Great Britain

The NTS plays a vital part in the secure transportation of gas and facilitation of the competitive gas market. It is a network of pipelines, presently operated at pressures of up to 94bar, which transports gas safely and efficiently from coastal terminals and storage facilities to exit points from the system. At the exit points, the gas is transferred to Distribution Networks (DNs) for onward transportation to domestic and industrial customers, or to directly connected customers including storage sites, power stations, large industrial consumers and interconnectors (pipelines to other countries).



23

compressor
stations

4,760

miles of high-
pressure pipeline

175

offtake points

8

Distribution
Networks that
we connect to

94bar

the pressure we
operate up to

We will... strive to always keep the public safe

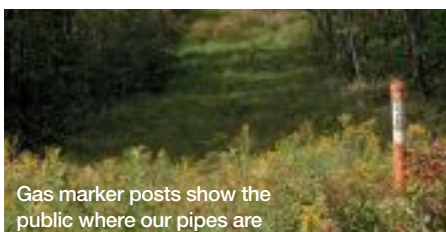
The safety of the public is the top priority for our business

SAFETY OF OUR PIPELINES

Significant sections of our high-pressure pipelines have been in use for over 30 years and require investment to ensure they are safe and fit for now and the future. Corrosion damage to our pipeline system is a big threat for us and a key focus for our investment has been on ensuring our pipes are protected from this as far as possible. We carry out helicopter surveys and walks along the route of our pipelines to identify and manage any external risk factors to our pipelines. We also undertake a programme of internal pipeline inspections using an In-line Inspection (ILI) tool, which looks at the integrity of our pipelines by running through the pipes. Please see the Pipeline Features case study for further information on our pipeline inspections using the ILI tool.

CASE STUDY: MARKER POSTS

Marker posts play an important role in reminding everyone working near to our pipelines that there is a major gas pipe running through the area. Unfortunately, the marker posts can be accidentally damaged or removed. We walk about 1,250 miles of pipeline route per year to check the marker posts and also to ensure our pipelines are not being placed at risk from external environmental factors. Where we find that a marker post needs to be replaced, we aim to replace it within two weeks of finding the problem.



Gas marker posts show the public where our pipes are

WORKING SAFELY IN CLOSE PROXIMITY TO OUR ASSETS

As the economy improves, the volume of building development has increased and there has been a rise in requests to work in close proximity to our high-pressure pipelines. This poses a significant risk to both the public and to our pipelines. We have produced clear, focused information for land owners and developers to manage the risk of working near our assets.

EMERGENCY PREPAREDNESS

Our assets are designed, operated and maintained to safely provide a constant supply of gas. However, we are not complacent and so we continue to exercise our emergency plans to ensure that if an incident did occur, you will be safe and supplies of gas can be maintained. We have an annual plan of exercises that we carry out, which is prepared in consultation with the Local Authority Emergency Planning Departments, the Fire and Rescue Service, Ambulance Service, Health and Safety Executive and industry participants.

These exercises take place across the country and take different forms, from desktop exercises to full-scale exercises involving mobilisation of the emergency services and our incident management facilities. Each exercise

is based on one of a variety of scenarios and tests how well the incident scenario is brought safely under control as quickly and effectively as possible.

SAFETY OF OUR EMPLOYEES AND CONTRACTORS

We continue to strive to meet our safety ambitions to attain world-class levels of performance and an employee injury frequency rate of below 0.1 across the Group. In Gas Transmission, 2013/14 was a strong 12 months in terms of safety, as we achieved a combined employee and contractor injury frequency rate of zero, a total recordable injury frequency rate of 0.06 and experienced no serious process safety events.



INFORMATION SUITE FOR CLOSE WORKING TO OUR ASSETS



1. DIAL BEFORE YOU DIG
<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33969>

2. REQUIREMENTS FOR THIRD PARTIES PUBLICATION
<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968>



Stakeholders were complimentary of our excellent approach to safety and told us that safety is non-negotiable

CASE STUDY: PIPELINE FEATURES

We inspect our pipelines using ILI tools. These ILI tools are placed inside the pipes and inspect the pipes' integrity without stopping the flow of gas. These inspections are able to detect very small features, down to the size of a match-head, which means that we can take action early to prevent a small issue developing into a major problem. In

2013/14, we completed 64 investigative digs as a result of these inspections to understand whether the feature we had detected was a problem. Once we have taken any necessary remedial action and we are sure that there is no risk to the public, the pipe is reburied and the land returned to its normal use.

In the example shown in the photo,

when we have dug down to the pipe, we have fitted a steel shell around the pipe to ensure that the feature found will not lead to a failure of the pipeline.



For more information on Safety and Emergency procedures please visit www2.nationalgrid.com/uk/safety/



In this photo, we have dug down to the pipe and fitted a steel shell around it to ensure that the feature found will not lead to a failure of the pipeline

We will... provide a reliable Gas Transmission system

During 2013/14 the overall reliability of supply for our system was 100%

MAINTAINING NETWORK HEALTH AND RELIABILITY

The RIIO price control arrangements introduce new Network Output Measures (NOMs), which assess the health and criticality of our system and determine how we invest to maintain the reliability of our system. The targets we have been set are eight-year targets and we have plans in place to deliver in line with these targets by the end of the eight-year period. During 2013/14, we have invested £43m in maintaining the health of our assets. Our asset health approach focuses on resolving issues identified with the condition or performance of our assets. Work is prioritised on the basis of the likelihood and impact on our network should they not be able to deliver their intended function. We aim to deliver efficient asset health solutions by considering appropriate remedial activities, including refurbishment versus replacement.

An increasing proportion of our assets are approaching the end of their design

life. In addition, we have increasing requirements from our customers for more varied and flexible utilisation of the system. To tackle these challenges and to deliver benefit to customers, we are working hard to deliver innovative solutions in a number of areas. Our forecast asset health investment plan is based on successfully developing these asset management strategies, and realising efficiencies that are beneficial to customers.

PROCUREMENT AND CONTRACTING EFFICIENCIES

We have implemented a new contractual framework for the procurement of asset health works, appointing strategic partners following extensive technical and commercial evaluation. The new framework provides an innovative and flexible approach to delivering future improvements and replacement of assets on the network.

CAMPAIGN APPROACH

We are developing a 'campaign' approach to asset health works, which will be trialled initially for a three-year period. This approach aims to focus on the benefits of securing a single extended site outage to enable the delivery of all necessary work. This is expected

to deliver multiple benefits such as minimising disruption to system operation, creating delivery efficiencies through targeted mobilisation of resources at a single location and reducing overall system access requirements.

DATA ENHANCEMENTS

We are undertaking a review of our asset and condition data to drive continuous improvement of our asset management processes. By improving our understanding of our asset condition, the performance of our system and how these factors interact and change over time, we can continue to improve our decision making on when, where and how we undertake interventions on the system.

INVESTMENT IN OUR PIPELINES

In 2013/14, we have focused work on our pipelines as they pose the greatest potential hazard to the public. As mentioned in the Safety Output section, our approach to manage this safety hazard is through inspecting our pipelines to assess risk of external damage and the internal integrity of our pipes through ILI runs. We have followed a risk-based prioritisation of any requirement identified for asset health investment in the pipeline asset category.



During our engagement for the RIIO-T1 business plans, stakeholders told us that the reliability of the transmission system is important and it is not appropriate for users to take on more risk as a result of a less reliable service

100%

reliability of the system

£43

million

invested in maintaining
the health of our assets

8

year targets to maintain
the condition of our assets



To access our operational
data, please visit
[www2.nationalgrid.com/uk/
industry-information/gas-
transmission-
operational-data/](http://www2.nationalgrid.com/uk/industry-information/gas-transmission-operational-data/)

We will... reduce our impact on the environment

Reducing our impact on the environment is important to us

We have set a company-wide target to reduce our greenhouse gas emissions by 45% by 2020 compared to our 1990 levels. On the Gas Transmission network, our largest impact on the environment is caused by the necessary emission of exhaust gases to the atmosphere when we run our compressor units, which move gas around the network. The volume of gas emitted in this way fell by 111 tonnes in 2013/14 compared to 2012/13.

ENVIRONMENTAL LEGISLATION

A new EU environmental policy, Industrial Emissions Directive (IED), has been developed which places stricter controls on industrial emissions including emissions of carbon monoxide and nitrogen oxide from our compressor units. This means that a number of our compressor units will need to be modified or replaced in order to meet the new limits. We are carrying out the physical work on some of our compressor units and working to establish what is required at other units to ensure they are compliant with the new limits.



amount by which overall emissions fell in 2013/14



compressor units affected by the Industrial Emissions Directive



December 2023

date up until our non-compliant compressors can operate

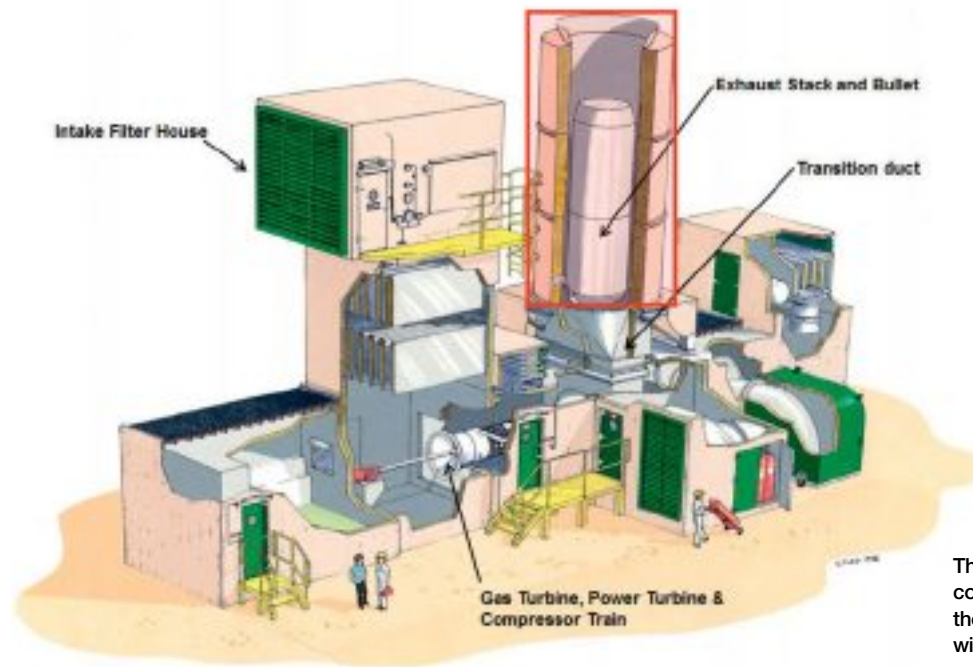


the reduction in greenhouse gas emissions targeted for 2020 compared with 1990 levels



For more information on what we are doing to ensure our gas compressor units are compliant with the Industrial Emissions Directive, visit www.talkingnetworkstx.com/IED-welcome.aspx

“
Stakeholders told us that they expect us to comply with environmental legislation and recognise that there is a need to manage the existing compressor fleet in such a way that it remains compliant



This picture shows a gas compressor unit and highlights the exhaust stack replacement with the CO oxidation catalyst

CASE STUDY: EMISSIONS COMPLIANCE

Three of our compressor units that are not compliant with the requirements of IED are at Peterborough, Huntingdon and Aylesbury. Over 2013/14, we have been progressing work at these sites to ensure their compliance. At Peterborough and Huntingdon, the Front End Engineering Design (FEED) contracts have been awarded and initial design work is in progress. At Aylesbury, extensive analysis has identified that it may be possible to achieve compliance with IED by installing a CO oxidation catalyst to treat stack gases. Detailed design work is commencing with Rolls-Royce, the engine manufacturer.

CO OXIDATION CATALYST

The existing engines at Aylesbury meet the NO_x limits specified under IED, but not the CO emissions limits. The CO oxidation catalyst works by oxidising CO to CO₂ using atmospheric oxygen in the exhaust gas stream. This technique should be able to reduce CO safely and reliably from the existing Aylesbury gas turbines. It is planned to complete the installation and commissioning of the catalyst during summer of 2015, with the system fully operational by 31 December.

INNOVATION

We have been using our innovative

Business Information Modelling (BIM) in progressing our work at the compressor sites affected by IED. BIM is a process that involves the generation and management of intelligent 3D digital representations of the physical and functional characteristics of assets. The modelling also allows the designer to consider construction and asset management elements that would not necessarily have previously been possible. Being able to look at a site through BIM enables information to be collected without the need for repeat visits to a potentially hazardous site environment.



This is an example of the type of image that BIM produces



For more information about our innovation activities please visit www2.nationalgrid.com/UK/Our-company/Innovation/Gas-Transmission-Innovation/

We will... focus on the delivery of our outputs

The way that we are funded during RIIO-T1 has changed. The money we are allowed to recover is made up of a mixture of upfront funding for delivery of agreed outputs, performance under our incentive schemes, and uncertainty mechanisms where we don't know the volume and/or value of the required investment. In these tables, we illustrate our performance under our outputs for 2013/14. In later sections we will look at the impact of this performance on the average customer bill.

Performance key:

- On Target or Exceeded
- 95% of target achieved
- Target missed

Safety Outputs	Performance
Meet requirements for Critical National Infrastructure.	■
Comply with Health and Safety Executive legislation.	■

Reliability and Availability Outputs	Performance
Meet our targets for costs we incur when we have to restrict customers using our system. Review of scheme in 2021	■
Meet our targets for the number of maintenance days we use. Review of scheme in 2015	■
Minimise the number of changes we make to scheduled maintenance days. Review of scheme in 2015	■
Deliver accurate demand forecasting at the day ahead. Review of scheme in 2021	■
Deliver accurate demand forecasting at the two to five days ahead stage. Review of scheme in 2015	■
Meet our targets for the difference in the amount of gas held in our pipes on our network from the beginning to the end of the day. Review of scheme in 2021	■
Meet our targets for minimising our impact when we have to enter the market to balance supply and demand. Review of scheme in 2021	■
Meet target for Transmission Support Services and for Constrained Liquefied Natural Gas & Long Run contracting. Review of scheme in 2018	■
Achieve our obligated times for delivering extra space (capacity) on the system.	■
Deliver existing capacity obligations in accordance with UNC, Licence and Gas Act.	■
Meet our targets for investing in our assets to ensure their health (NOMs targets). Meet targets by 2021	■
Increase the number of suppliers of operating margins. Reviewed annually	■
Maintain our security of supply obligations in Scotland (Network Flexibility). End of period	■
Deliver pipeline solution to enable replacement of a Liquefied Natural Gas storage facility at Avonmouth. Deliver asset solution 2018	Solution under review
Replace Feeder 9 (a pipeline that runs across the Humber Estuary). Reopener window	■



Environment Outputs	Performance
Meet our targets for the amount and the cost of the gas we use to run the network. Scheme reviewed in 2021	■
Meet greenhouse gas emissions targets. Scheme reviewed in 2016	■
Report on our greenhouse gas emissions. Annual Review through RRP	■
Install new electric drive compressors at Peterborough and Huntingdon to ensure compliance with the Integrated Pollution Prevention and Control (IPPC) Legislation. Deliver asset solution in 2019/20.	■
Install new compressor units at Aylesbury to ensure compliance with the Industrial Emissions Directive (IED). Deliver asset solution in 2019/20	■
Develop an integrated and cost-effective plan to ensure the remainder of our compressor units are compliant with IPPC and IED. Submit to Ofgem in May 2015 reopener window	■

Customer Satisfaction Outputs	Performance
Meet agreed customer and stakeholder satisfaction targets. Annual	■
Achieve stakeholder engagement discretionary reward. Annual	■

Customer Connections Outputs	Performance
Deliver extra capacity to specified timescales. Ofgem review through RRP	■
Meet timescales for connection applications as specified in UNC Modification 373. Ofgem review quarterly	■
Comply with reasonable requests for a customer connection to the NTS.	■

We will... aim to keep our customers satisfied

Over recent years we have been working hard to improve our customer service and satisfaction

In 2013/14 we have continued to make customer and stakeholder engagement a fundamental priority for our business.

Our customer and stakeholder satisfaction is measured out of 10 by surveying our customers and stakeholders.

ACHIEVEMENTS

- Attained the government standard Customer Service Excellence accreditation for our Gas Customer Service team.
- Consulted and delivered the 21 commitments that we made to our stakeholders for 2013/14.
- Included a commitment to improve stakeholder engagement in our company vision and strategic objectives.
- Introduced a new way of working, which puts stakeholders' requirements at the heart of what we do. For example, we included good stakeholder engagement in the objectives of the senior leadership team; we launched new digital and social media platforms; introduced specific stakeholder-facing roles; and we established a new Customer and Stakeholder Strategy team to integrate stakeholder views in our decision making.

7.8

score we received out of 10 for our stakeholder satisfaction

7.2

score we received out of 10 for our customer satisfaction



Stakeholder engagement activities

We also have the opportunity to demonstrate best practice and innovative stakeholder engagement across a broad spectrum of our stakeholders as part of the stakeholder reward. We received a score of 5.75 out of 10 in 2013/14.



We will work closely with you to build a foundation for trust through open and honest relationships

We will listen, understand your needs and expectations, and seek solutions that work for you

We will help you understand our business so that we can work better together

We will be accountable for delivering a clear and timely service

We will seek and act upon your feedback



CASE STUDY: SUCCESSFUL OUTCOMES FOR CUSTOMER AND STAKEHOLDER

The innovative solution that we developed to protect the Milford Haven pipeline from a new carriageway being built in South Wales is an example of us working to meet our customer and stakeholder needs.

ISSUE

The Welsh Government approached us to work with them on their planned route for a new carriageway across South Wales (St Clears to Red Roses improvement). The request meant that we would need to divert the largest high-pressure gas pipeline in the UK (the Milford Haven pipeline) to enable construction to take place. The normal process would have been to divert the pipeline and install stronger, heavy wall pipe. Although it is the industry standard, this approach can take up to three years to complete and can be very costly to the customer. It was clear from our ongoing discussions with the customer that this would significantly impact on the cost of the project and would jeopardise their project delivery date.

SOLUTION

We collaborated with the Welsh Government, and with industry experts, to find a solution that met their needs while still maintaining the integrity of the National Transmission System. By challenging the current industry standard and historical ways of working, and subsequently developing our existing internal policies, we developed an option that involved protecting the existing pipeline, rather than diverting it, by using an innovative design of steel shells filled with epoxy resin.

As a result, we saved the customer around £40m and took two years off the projected schedule, with no safety or environmental incidents. In addition, members of our project team and the Welsh Government's team have subsequently built a customer journey map for customers requiring high-pressure mains diversions so that we better understand customers' needs on similar future projects. Along with our technical innovation, we can now use this information on future projects to the benefit of our customers.



When you promise a client something you actually deliver on it

Martin Bates
Welsh Government



£40m

savings made to the customer
with our new solution

2



years taken off the projected
schedule, with no safety or
environmental incidents



*I have seen a big
improvement year
after year with the
relationship with
National Grid*

We will... provide our customers with connections and access to the Gas Transmission system

A connection to the Gas Transmission system is essential for our customers to either input or offtake gas from the network

We have seen a general decline in the number of applications from new customers to connect to our system. In 2013/14, we released extra capacity to one new customer.

In 2012, new timescales were placed around the process of a customer applying for a connection to, and use of, the Gas Transmission system and how we process that application. This is aimed at providing customers with a clearer process, timescales and certainty. In 2013/14, we complied with all these timescales.

CUSTOMERS' USE OF THE SYSTEM

Our customers are able to use our system by booking space called capacity. Sometimes, for operational reasons, we cannot allow customers to use the capacity they have booked. In 2013/14, we reduced the number of times we had to stop our customers from using the system in the way their arrangements specified.

As well as providing our customers with capacity on our system, we also provide the capability to move gas around in different directions. As our customers' use of the system changes, we may have to make further investment in the NTS to ensure that we can continue to provide the capability. We have been assessing the requirement for these investments to ensure they provide appropriate system operability, and are in the best interests of customers.

SYSTEM MAINTENANCE

We have to carry out maintenance activities on our network to ensure that the system remains safe and reliable. Over 2013/14, we reduced the impact of our maintenance activities on our customers by reducing the number of maintenance days used and ensuring that we did not subsequently instigate any changes to the agreed days. This minimised the disruption to our customers and the impact on their operations, which stakeholders have told us is important to them.

FORECASTS

We publish our national forecasts of gas demand over a range of timescales. This is to assist the industry in making efficient decisions in balancing supply and demand positions. During our RIIO incentive engagement process, stakeholders expressed a desire for improved accuracy in our demand forecasting. We have made improvements in our demand forecasting ability meaning that over 2013/14 our customers have been able to place greater reliability on our forecasts and to optimise their commercial operations.



CASE STUDY: PLANNING AND ADVANCED RESERVATION OF CAPACITY AGREEMENT

Our stakeholders told us via engagement at industry working groups and through customer feedback that the arrangements for securing a connection and purchasing capacity on the NTS were not aligned with each other. These had been further complicated by the impact of the 2008 Planning Act, meaning that customers could be frustrated by a protracted lead time for any NTS reinforcement.

SOLUTION

During our significant engagement with stakeholders, they asked us to develop a flexible solution that was simple, transparent and sustainable. In response, we simplified the application process and modified the financial obligations on potential connectees to lessen one of the barriers to entry. We now have a simpler and more flexible solution that is robust to future changes and, as much as possible, meets the needs of our future customers. We have also produced a stand-alone proposal to provide earlier, non-guaranteed access to the transmission system. Working with stakeholders has allowed us to minimise the delivery timescale and cost of this by implementing it within our existing computer systems. We have grown and strengthened relationships by using a more collaborative approach. We will build on this for any future industry changes.



For more information on the Planning and Advanced Reservation of Capacity Agreement and its development visit www2.nationalgrid.com/UK/Services/Gas-transmission-connections/Capacity-and-connections/Processes/Parcal



52*

gas connection enquiries made in 2013/14

*this includes applications for diversions and disconnections from October 2013

6

gas connection applications made in 2013/14



1

new release of extra capacity



For our transmission gas connections performance reports visit www2.nationalgrid.com/uk/services/gas-transmission-connections/connect/performance-reports/

We will... provide value for money

Our regulatory deal and performance against that deal defines our allowances and hence the revenues that we are allowed to recover from our customers

The framework for determining our regulatory cost allowance, and therefore revenues that we are allowed to recover, has been set by Ofgem through to 2021. In return for these cost allowances, we have committed to deliver a level of outputs our stakeholders have asked us for. All of our outputs can be seen on the scorecards on pages 10 to 11 of this performance booklet, along with how we are performing against these. In 2013/14, we delivered our outputs at a cost that was broadly in line with our estimate of RIIO cost allowances (adjusted for outputs and phasing of spend) for the year. Many of our outputs are targets to be met throughout or by the end of the RIIO period, for example, our asset health targets. For these types of outputs, we have also spent time in 2013/14 developing strategies to ensure we deliver in the most economic and efficient manner across the RIIO period. In meeting all of our outputs, we are focused on ensuring everything we do is in the customers' best interests.

FORWARD-LOOKING VIEW

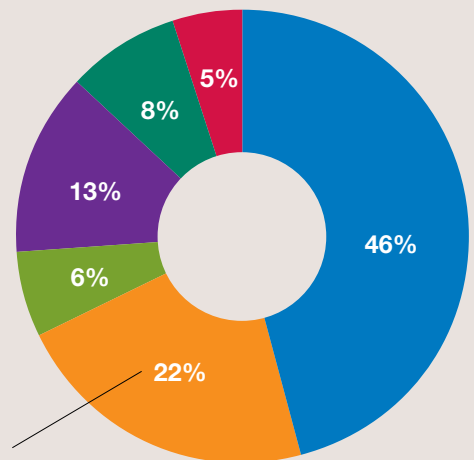
Our investment plan over the RIIO period and beyond can be split into two high-level areas; customer-driven activity and investment to maintain the health of our assets. Our Future Energy Scenarios are forecasting a low level of customer-driven activity over the RIIO period, so we currently expect that a large proportion of our expenditure will be on delivering a steady programme of asset health investment to meet our Network Output Measures targets, along with our expenditure on making sure our compressor units are compliant with IED.

CUSTOMER DRIVEN

A number of external factors influence the economic case for investment in our network. Based on these factors and engagement with our stakeholders, during

UNDERSTANDING THE ENERGY BILL

- Wholesale costs
- Network costs
- Environmental & social costs
- Supplier operating costs
- Pre-tax margin
- VAT



National Grid Gas Transmission's proportion of the customer bill is 2.2%. This falls within the network cost segment shown above.



Bill breakdown available from Ofgem, visit www.ofgem.gov.uk/informationconsumers/domestic-consumers/understanding-energy-bills

2013/14 we have been re-assessing the need case of evolving requirements into the future, ahead of any significant investment. Our forward-looking investment plan includes a limited level of customer-driven activity over this RIIO period.

OUR ASSETS

Asset health During 2013/14, we invested £43m in maintaining the health of our assets. This was below our cost allowance for the year. In 2013/14, we focused on developing strategies around asset health to ensure that our investment plans continue to deliver a safe and reliable system. While spend was below the cost allowance in 2013/14, our total investment plans over the RIIO period for asset health are in line with our total cost allowance over the eight years.

Compliance with IED During 2013/14, we invested £31m to ensure our compressor units are compliant with the IED in the required timescales. This is made up of £26m spent on ensuring compliance with the initial phase of IED at St Fergus, Kirriemuir and Hatton, and £5m on developing options for compliance at Peterborough, Huntingdon and Aylesbury, along with developing our plan to achieve compliance at the remainder of our affected compressor units.

UNCERTAIN COSTS

In some areas, the costs we will incur over the RIIO period are more uncertain as we cannot yet be sure of the volume of work that we will need to deliver. This is the case for the scope of the Physical

Security Upgrade Programme (PSUP), formerly Critical National Infrastructure (CNI). This programme is a government mandated initiative to protect the UK's most essential infrastructure, and is evaluated by government bodies. In 2013/14, we invested £31m in activity at 40 sites, in line with government requirements. This is also the case for a proportion of our allowances that relates to the remainder of our compressor units impacted by IED compliance. Consultation is ongoing to develop this plan and once completed, this will support further work to determine the best available techniques at an individual site level. Our forecast timescales and costs in respect of these investments will be reviewed and determined by Ofgem in 2015.

A further uncertain cost relates to a section of our pipeline that spans the Humber Estuary and requires remediation as a result of external conditions. We are developing a long-term solution to replace the assets and have forecast timescales and costs to deliver this by 2018.

In 2013/14, total expenditure in our Gas Transmission business was around £240m (in 2009/10 prices). We expect to increase our level of expenditure over the coming years.

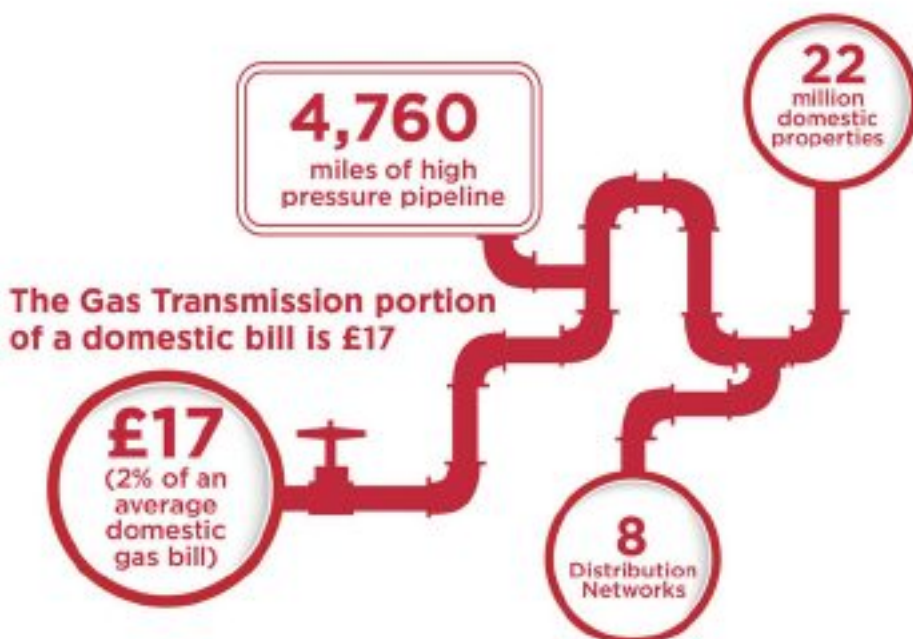
For the remainder of the RIIO period, we expect our average annual total expenditure to be around £100m a year higher (in today's prices) than in 2013/14, including our current assumptions around uncertain costs. We expect that total expenditure over the RIIO period will be slightly below the regulatory cost allowances for the outputs we deliver. The RIIO framework allows for both network companies and customers to benefit from efficiencies achieved through the cost-sharing mechanism. As a result, customers will benefit from just over half of the additional efficiency savings that we are able to achieve.

CUSTOMER BILL IMPACT

Approximately £17 of an average domestic customer bill in 2013/14 related to National Grid's Gas Transmission services. This represents 2.2% of the £755 typical domestic bill. Given our current view of likely levels of expenditure and performance, we expect that this element of a domestic bill will remain broadly flat in today's prices until 2021, ranging between £17 and £18 per annum.



UNCERTAINTY MECHANISMS are designed to remunerate efficient costs that were not sufficiently certain enough to include in allowances at the time the RIIO controls were set.



We will... continue to make improvements

During 2013/14, we have been making improvements to the way we work to become more efficient

PERFORMANCE EXCELLENCE

During 2013/14, we have been embedding Performance Excellence into the business to deliver our regulatory commitments through continuous improvement.

Performance Excellence is all about making a sustainable change to the way we work to drive our performance and deliver our regulatory commitments through continuous improvement. It supports teams to improve their own performance and that of the end-to-end process by using a variety of tools and techniques.

CASE STUDY: PERFORMANCE EXCELLENCE

Through the Performance Excellence journey our Gas Customer Service mapped out our current process for dealing with pipeline diversions. We conducted a Waste Log, which helped to identify where our processes were not working well. We then worked to refine those elements that were not working well and continue the areas that were. We standardised the conditions of contract and combined them with the quotation letters given to customers. We also provided guidelines aimed at supporting the Customer Account Managers in this new process. This led to us reducing contract negotiation timescales by 58 hours for the pipeline diversions process.

PERFORMANCE EXCELLENCE

is all about:

- Knowing what we need to do
- Doing it well
- Improving it
- Sharing it.

CUSTOMER-FOCUSED IMPROVEMENTS

We continue to look for ways to improve our processes and operations to deliver benefit to our customers in our specific activities. A particular example of this is where we have been able to reduce the

number of maintenance days we use and subsequent changes to them.

There are two elements to the maintenance incentive scheme. This case study highlights our actions taken to improve our performance in both of these areas.

CASE STUDY: MAINTENANCE DAYS USED AND CHANGED

NUMBER OF CHANGES MADE BY NATIONAL GRID TO MAINTENANCE DAYS

We work with our customers to align our maintenance activity with their site outages wherever reasonably practical. To maximise the ability to align, we have put in place a number of enhancements to our business processes, some of these include:

- (a) Wider communications and engagement with our customers at industry events to discuss proposed maintenance schedules;
- (b) Proactively approaching our customers to understand their outage plans and track responses;
- (c) Review and assess other public information sources to identify other potential outages;
- (d) Review and update customer contact lists to ensure the right parties are engaged in the end-to-end process;
- (e) Flexibly working with our customers to align work following the issuing of notices at the end of January, but prior to the formal commencement of the maintenance programme.

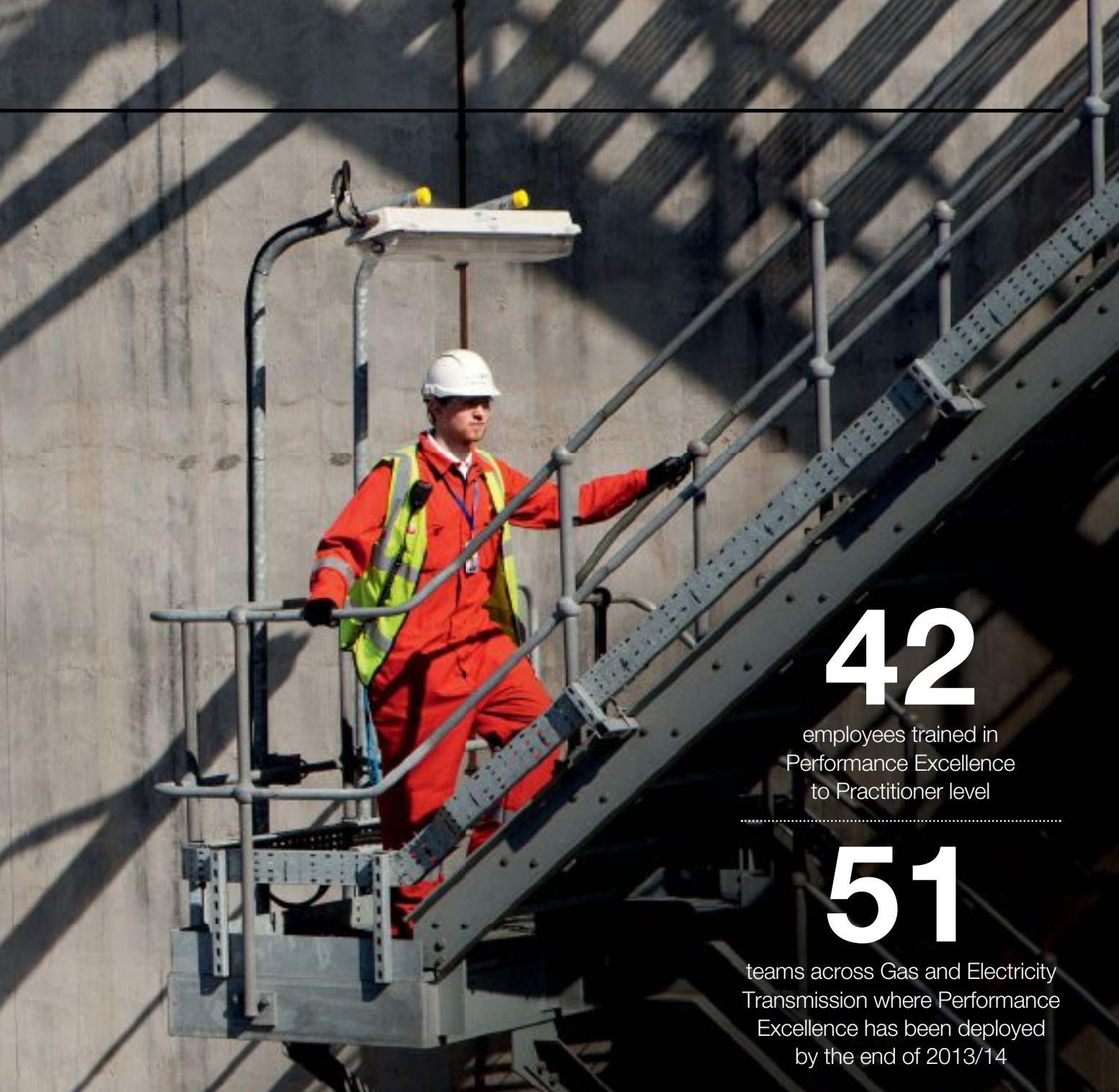
Through this activity we have been able to schedule a significant proportion of our customer impacting maintenance programme for the periods 2013/14 and 2014/15 within the customers' outage periods. Where we have been unable to

align maintenance to a customer outage plan, we have called Maintenance Days. In 2013/14, we called 43 Maintenance Days and did not request any change to move or cancel any of them.

NUMBER OF DAYS USED FOR ROUTINE MAINTENANCE

Due to the rigour that we have applied to enhancing our planning processes and operations, we were able to beat our target for the number of Maintenance Days used. We sought to align routine maintenance activities with other one-off NTS maintenance, as well as customer outages. Additionally, we explored different maintenance methodologies that minimise customer impact. Finally, an internal policy change was implemented relating to the assessment of maximum flow rates through a valve bypass. This enabled us to complete all our Remote Valve Operations while only calling seven Maintenance Days.

In 2013/14, our target was to use 27.65 days or less for inspecting our pipes; we used 25 days. We found little scope for reduction in the days called to undertake these activities due to safety and Pipeline Inspection Gauge (PIG) running speed considerations. We also continued to call Maintenance Days for contingency due to the uncertainty inherent in work of this type.



42

employees trained in Performance Excellence to Practitioner level

51

teams across Gas and Electricity Transmission where Performance Excellence has been deployed by the end of 2013/14

DATA TABLES

The tables at the link below right are titled Published Totex Table and Published Output Table. The Published Totex Table shows our actual total expenditure for 2013/14 and forecast expenditure for the remaining years of RIIO-T1. This is split between our functions as Transmission Owner and System Operator. It also categorises our expenditure between our capital expenditure, which is our spend on physical assets, and our operating expenditure, which covers our

operational costs. The Published Output Table shows our actual expenditure for 2013/14 against some of our specific outputs.

To view the tables, please visit www.talkingnetworkstx.com/Our-Performance.aspx



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