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# Initial assessment of RIIO-GD1 business plans

## Supplementary Annex


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**Overview:**


This document summarises our initial assessment of gas distribution networks' (GDNs) business plans for the next gas distribution price control (RIIO-GD1). We are publishing this supplementary annex alongside our letter 'Initial assessment of RIIO-GD1 business plans and proportionate treatment'.

A core element of the new RIIO framework is the concept of proportionate treatment, ie that the level of regulatory scrutiny we apply will be proportionate to the quality of companies' plans. The new framework also allows for the possibility of agreeing companies' plans earlier where they are sufficiently high quality (referred to as "fast-tracking").

In this document we set out our overall assessment of companies' plans, including our proposed level of regulatory scrutiny, and our reasons for not retaining any company within the fast-track process.

# Associated documents

Main letter

Initial assessment of RIIO-GD1 business plans and proportionate treatment
https://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/120217_fast_track_decision_letter_FINAL.pdf

Other associated documents

RIIO-GD1: Gas distribution networks' business plans - publication and next steps
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/111209_GDN_busplans_thirdparty.pdf

Decision on strategy for the next gas distribution price control - RIIO-GD1 Overview paper
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/GD1decision.pdf

Consultation on strategy for the next transmission price control - RIIO-GD1 Overview paper (and supporting documents)
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/RIIOGD1%20overview.pdf

Handbook for implementing the RIIO model - Ofgem, October 2010
http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/RIIO%20handbook.pdf

Glossary

A glossary of terms for all the RIIO-T1 and GD1 documents is on our website:
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/Glossary.pdf

# Contents

# 1. Introduction

**Chapter Summary**

This chapter outlines the purpose and structure of this paper.

1.1. The gas distribution networks (GDNs) submitted their business plans to us on 30 November 2011. We have completed our initial assessment of their plans. The objective of the initial assessment is to consider the quality of companies' plans in order to identify the areas where we need to focus our resources for the remainder of the assessment process, and where we will need GDNs to do further work. Our initial assessment also identified those areas which are well-justified and we can broadly agree to the companies' plans. This is referred to as proportionate treatment (ie we focus our resources on the high value and least well-justified areas of GDNs' plans). The RIIO process also includes the option of fast-tracking (ie agreeing price limits early) for GDNs who submit very high-quality plans.

1.2. This is a supplementary annex to our decision letter. In our decision letter, we conclude that all GDNs' plans include broad areas that are well-justified and where we do not need to undertake any further detailed analysis. However, we also set out that no GDN will be retained within the fast-track process as we have identified material issues within all plans which we cannot resolve in the consumer interest within the compressed fast-track process.

1.3. The purpose of this supplementary annex is to provide more details of our initial assessment of companies' plans, the expected level of regulatory scrutiny by broad area, and our reasons for not retaining any company within the fast-track process. This is the first step in our assessment process. We also set out how we expect to work with companies prior to the submission of their second business plans on 27 April 2012.

## Structure of this document

1.4. This document is structured as follows:

- Chapter 2 sets out our approach to the initial assessment, and a high-level assessment of all GDNs' plans
- Chapter 3 sets out key issues and next steps
- Chapter 4 to 7 set out an individual assessment of the four plans

1.5. There are also a series of appendices to this report.

# 2. Summary of assessment

**Chapter Summary**

This chapter outlines how the business plan assessment fits into the wider process for RIIO-GD1. We also provide details of how we approached the assessment and our criteria for assessing the companies' plans, and our overall assessment for each company.

## RIIO-GD1 and business plan assessment

2.1. In October 2010 we introduced RIIO (Revenue = Incentives + Innovation + Outputs), our new approach to regulating gas and electricity network companies. RIIO is designed to realise significant benefits for consumers by providing network companies with strong incentives to submit high quality business plans which will help realise the government's objectives to decarbonise the energy sector, and result in greater value-for-money for consumers than under our previous price control framework.

2.2. A key principle of the new framework is for companies to develop a well-justified business plan through enhanced stakeholder engagement. To incentivise companies to submit high quality plans we have stated that we will subject companies' plans to different levels of regulatory scrutiny according to the quality of the plan (proportionate treatment), and potentially agree price limits early for very high quality plans (referred to as fast-tracking). Proportionate treatment provides benefits in terms of enabling us to focus our resources where they can deliver most value for consumers. Fast-tracking provides strong incentives for the companies by allowing them to conclude their price control ahead of the standard timetable.

2.3. In March 2011, we set out our strategy for RIIO-GD1.[1] This set out decisions on the key aspects of the regulatory framework, including the outputs that the gas distribution companies need to deliver and associated incentives, mechanisms to address uncertainty during the price control and the key elements of the financial framework. It also set out what we expected to see in a well-justified business plan and the criteria against which we would assess the plans. The GDNs submitted their business plans to us on 30 November 2011, and we invited stakeholder feedback on their published plans.[2]

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[1] See: Ofgem (March 2011) Decision on strategy for the next gas distribution price control - RIIO-GD1: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=312&refer=Networks/GasDistr/RIIO-GD1/ConRes

[2] See: Ofgem (December 2011) RIIO-GD1: Gas Distribution Networks' (GDNs) business plans - publication and next steps. http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=325&refer=Networks/GasDistr/RIIO-GD1/ConRes

2.4. In June 2011 we announced a delay to the GDNs' business plan submissions following a change to the Health and Safety Executive (HSE) policy on iron mains replacement (or repex).[3] In this decision, we stated that given the compressed time available for the RIIO-GD1 fast-track process (eg relative to RIIO-T1) we would require GDNs to achieve a very high-hurdle for their plans to be considered for fast-tracking.

## Assessment process

2.5. We undertook our initial assessment between receipt of companies' plans on 30 November 2011 and the publication of this decision document, ie a period of around 2.5 months. The purpose of the initial assessment is to identify those areas of companies' plans that were well-justified, and those where further justification is required. This assessment informs our view on the appropriate level of regulatory scrutiny, as well as whether any company has submitted a plan which could be considered for a fast track settlement. In other words, the purpose of the initial assessment is to identify where it would be most beneficial for us to focus our efforts during the next stage(s) of the business plan assessment in order to provide the greatest value for consumers. A proportionate approach also reduces the regulatory burden (and therefore costs) for Ofgem, companies, and stakeholders.

2.6. Our initial assessment was also informed by the views of the Consumer Challenge Group (CCG) which acts as our internal advisory group on consumer and environmental issues. The CCG also met with each GDN, which provided an opportunity for the GDNs to present their plans and answer questions on their plans. Our assessment has also been informed by stakeholder responses to the GDNs' plans. We received four responses to our December letter seeking views on the business plans published by the GDNs. We provide a brief summary of respondents' views below, and more detail in Appendix 1.

### Respondents' views

2.7. There were mixed views on the overall quality and comparability of the plans but all that commented thought that this price control process had produced a significant step forward in the quality and accessibility of the plans. They particularly welcomed the improvements in the GDNs' stakeholder engagement processes.

2.8. Concern was raised that on average the GDNs are requesting revenue increases when, in one respondents view, the main drivers of GDNs' costs should be resulting in revenue decreases. Specific mention was made of high real price effects, inclusion of reinforcement costs when demand is decreasing, unclear adoption of changes in the HSE's mandated repex programme and how cost savings since GDN sales in 2005 had been incorporated.

[3] See:http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=322&refer=Networks/GasDistr/RIIO-GD1/ConRes

2.9. There was also mixed views on the financial packages requested. One respondent thought they were appropriate while another thought they appeared extremely generous.

2.10. One respondent concentrated their response on carbon monoxide (CO) related sections of the plans. The respondent noted disappointment that there had not been better consistency in the approach outlined by the four GDNs on how to raise awareness of CO amongst consumers.

2.11. Two respondents discussed the impact of the smart meter roll-out. One respondent thought that the cost impact could be minimised if a flexible approach was taken by the GDNs. Another identified it as a key area of uncertainty for the GDNs.

**Assessment criteria**

2.12. In our March strategy decision, we identified fifteen criteria that we would use to assess companies' plans. In order to help structure our assessment and in order to present our conclusions, we categorised these fifteen criteria under the following five broad headings:[4]

- Process: has the company followed a robust process?
- Outputs: does the plan deliver the required outputs?
- Resources (efficient expenditure): are the costs of delivering the outputs efficient?
- Resources (efficient financing): are the proposed financing arrangements efficient?
- Uncertainty and risk: how well does the plan deal with uncertainty and risk?

**Scoring the business plan criteria**

2.13. We have used a 'traffic light' score for each of the five broad categories outlined above, and we have produced a scorecard for each the companies. We define the traffic lights as follows:

- Green – areas of companies' plans that are broadly acceptable to us without the requirement for further (detailed) analysis. An area which we score as green will be subject to lighter-touch regulation during the remainder of the review, although there may be narrowly defined areas within the broad category where we need to engage further with companies.
- Amber – areas where we or the companies need to undertake further analysis or the companies need to provide further evidence in order for us to take a decision on whether this aspect of their plan is acceptable or not. Such areas will be a continued focus of our work.

[4] See Appendix 2 for how the fifteen assessment criteria relate to the five broad assessment categories.

- Red – areas that are not acceptable to us and which we will not be able to resolve in the customer interest within the fast-tracking process. We will need to work with companies' to resolve these issues.

2.14. In Chapters 4 to 7 we set out our assessment of companies' plans based on the above indicators. In the remainder of this Chapter, we set out our high-level views for each of the broad categories for all companies.

## Process

2.15. Within the process assessment category, we consider both the internal and external processes that the company has undertaken in formulating its plan. A company that has followed a robust process provides us with confidence about the other elements of their plan. We consider a well-justified plan should include the required content, follow a clear and logical structure, and be supported by effective stakeholder engagement.

2.16. With regard to key content, we consider that the GDNs' plans are more comprehensive relative to previous price controls. In general, the GDNs' plans include the core content that we set out in our March strategy decision, and the GDNs have demonstrated a strong commitment to the implementation of the new RIIO price control framework in terms of the overall process.

2.17. However, the GDNs did not adopt a uniform approach to the structure and detail. The GDNs adopted different approaches in relation to the level of detail in their plans. NGGD and WWU provided the most detailed plans. For example, NGGD provided very detailed analysis for core areas of the key content, including in relation to their approach to assessing uncertainty, cost efficiency, and efficient financing costs. WWU also submitted a very detailed business plan which was clearly structured, and sign-posted to assist the reader with understanding the inter-linkages. NGN and SGN provided the most concise plans which aided their accessibility.

2.18. One respondent stated that we should consider imposing a uniform structure and length to ensure companies' plans are accessible and to facilitate comparison. We will consider these issues for future network price controls (starting with RIIO-ED1).

2.19. In terms of key content, the set of plans covered all of the key elements that we consider constitute a well-justified plan (as set out in our March strategy decision). However, there were two notable omissions in terms of the detail of the plans. First, none of the GDNs submitted detailed cost benefit analysis (CBA) supporting their asset investment plans, eg in support of their approach to iron mains tier 2 and tier 3 non-mandatory investment, as well as other asset classes, such as condition based expenditure, and gasholder decommissioning. In our follow-up question and answer (Q&A), we have requested the detailed CBA models from companies that support their investment proposals, and our review of their models will form a core part of the next stage of our assessment. Second, none of the plans considered in detail the implications of uncertainty (both in relation to future demand

and asset data) on investment plans. Reflecting the future uncertainty over network use in companies' plans constitutes another core issue that we will need to address at the next stage of the assessment process.

**Stakeholder engagement**

2.20. The GDNs demonstrate that their plans have been informed by extensive engagement with stakeholders. Although there were differences in the approaches taken, they have each considered who their stakeholders are and how best to engage with them. At a high level all of the approaches taken have progressed through a number of similar stages, moving from identification of issues and priorities through to an assessment of the suitability of the resulting plan. In each of the business plans, the engagement process has been presented clearly. Each of the GDNs have also made efforts to demonstrate how feedback from stakeholders has influenced the plan, although in some instances it is not always apparent how the GDN has balanced the views of different stakeholder groups.

2.21. Although each GDN made efforts to engage with a wide range of stakeholders, it was not always possible to determine how the interests of 'future' consumers had been taken into account. We recognise however that there is an inherent difficulty in identifying any additional or competing priorities that are distinctly associated with this group.

2.22. We believe that the engagement that has been undertaken for RIIO-GD1 represents a significant improvement on previous price controls. We have seen a large number of stakeholders, representing a wide range of interests involved in the process. More significant than the volume of engagement has been the evidence that the quality and depth of engagement has also improved, resulting in plans that more transparently reflect stakeholder priorities.

## Outputs

2.23. In our March strategy decision, we set out a comprehensive set of outputs that we would expect networks to deliver over the RIIO-GD1 price control. These outputs were developed through industry-wide working groups which we established at the start of the price review process (in July 2010). We also noted in our March strategy decision that it was important for GDNs to consider the role of innovation in developing their plan by considering the deployment of new techniques vis-à-vis business as usual, as well as setting out a specific innovation strategy to trial new techniques.

2.24. We expected GDNs proposed output measures (and associated incentive mechanisms) to conform to our March strategy decision. However, we expected GDNs to set out the proposed baseline performance for the next review period (where performance under or over this baseline is penalised or rewarded). We expected the proposed output baselines to be based on stakeholder engagement, and justified in terms of cost benefit analysis.

*Overview of companies' performance*

2.25. In general, GDNs' proposals in relation to non-asset related outputs (ie customer services, social and environmental outputs) were generally acceptable. We note that all companies' submitted proposals to address incidence of carbon monoxide (CO) poisoning drawing on evidence from their recent trials. However, GDNs have proposed different approaches to increase awareness, and different approaches to measuring the effectiveness of their intended programmes. We intend to discuss with the GDNs and other stakeholders how we can develop a consistent approach across the industry (where desirable) drawing on different aspects of GDNs' plans. In relation to fuel poor network extensions, where the GDNs set out similar levels of connections, we also intend to discuss with the industry how we can improve the robustness of the proposed level of connections that the GDNs consider are cost-effective.

2.26. One of the main challenges for the GDNs was to set out an iron mains replacement programme which responds to the recent changes in HSE policy. The change in the HSE policy provides greater flexibility for GDNs in how they manage iron mains risk, by allowing them greater flexibility in relation to the selection of mains to be replaced within tier 1, and by removing the mandatory requirement to replace mains within higher diameter bands (above the risk-threshold in tier 2 and tier 3).[5]

2.27. NGGD's submission most clearly rises to the challenge of the new HSE policy. NGGD has set out a plan which includes a tier 1 programme based on a wider view of risks (eg environmental risks as well as safety risks) which delivers major reductions in emergency, repair and leakage volumes. They have also provided detailed CBA analysis to support investment in tiers 2 and tier 3. By contrast, it is not clear to us that the other GDNs have taken sufficient advantage of the opportunities afforded by the new HSE policy. For example, NGN appear to adopt the 3-tier approach but they have taken a more conservative approach to opex benefits than NGGD. There are also industry wide issues that we need to resolve in relation to the different approaches GDNs have adopted in relation to defining the tier 2 risk-threshold (where we intend to do further work to understand the differences and consider the feasibility of a common approach), as well as a detailed review of CBA models supporting their proposals.

2.28. On network reliability, we note that most GDNs propose a significant reduction in load related investment to deliver incremental capacity as a consequence of reduced demand growth but they are looking to increase investment in asset integrity.

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5 Under its new policy, the HSE has identified three tiers of mains Tier 1 (iron mains less than or equal to 8" nominal diameter) ; tier 2 (iron mains greater than 8" and less than 18" nominal diameter); and, tier 3 (iron mains equal to or greater than 18" nominal diameter). The new policy provides GDNs with greater flexibility in relation to the prioritisation of mains replaced subject to specific rules for each tier.

2.29. While the GDNs have made significant steps forwards in terms of embracing the RIIO approach to asset health and criticality, there is currently insufficient detail to understand the robustness of the asset health information, how deterioration is being estimated and how this translates to work volumes and expenditure. As discussed in our March strategy document it is essential that there is robust information to justify asset integrity expenditure and where this isn't available it may be appropriate to set lower levels of expenditure and then review this as asset health data improves.

## Resources – value for money in delivering outputs

*Requirements of a well-justified plan*

2.30. To meet our requirements for a well-justified plan, we expected GDNs to provide evidence that they are going to deliver outputs at value for money over the longer-term. In particular, we were interested in:

- the processes and tools they used to determine their efficiency
- external benchmarking evidence such as comparisons with other industries or across the same industry, and the actions arising from this evidence
- evidence of market testing, for example through tendering
- a clear demonstration that the longer-term had been considered in developing the plan.

2.31. We were also looking for the GDNs to provide further information on certain categories of expenditure. We were seeking clear linkages between asset expenditure and the associated outputs. We also expected companies to justify changes in operating expenditure, and provide forecast costs that took account of the impact of Real Price Effects (RPEs) and ongoing efficiency and evidence in support of GDNs' assumptions.

*Overview of companies' performance in relation to efficiency of expenditure*

2.32. All of the companies have much higher cost projections than we expected, with all GDNs proposing double digit increases for RIIO-GD1 relative to GDPCR1. The high cost projections are explained by higher output volumes, higher unit costs as well as new areas of costs. We consider that GDNs have generally put forward insufficient independent evidence of delivery efficiency for their expenditure or evidence to show how competitive tendering exercises have been used to deliver improved efficiency. A number of the GDNs appear to be relatively high cost in terms of our comparative analysis. This will require further work over coming months to consider companies' comments on the appropriate cost drivers, company specific costs and to address differences in assumptions put forward on smart metering, loss of metering and street works. The GDNs have made significant progress in developing asset health and integrity data in support of their investment plans. However, in general we do not consider that the evidence is sufficiently robust to justify the extent of the proposed increases in expenditure. We need to do further

analysis to understand the quality of the asset health information, assumptions on deterioration and how this translates into volumes of work and expenditure.

2.33. There are significant levels of expenditure justified by cost benefit analysis and we only recently received the companies modelling in this area. There is significant further work needed to understand the robustness of this analysis and differences in assumptions across GDNs.

2.34. All companies provided evidence behind their RPE assumptions, predominantly from reports commissioned from consultants, but the range of RPEs identified vary considerably. The GDNs have also all provided evidence behind their assumptions for ongoing efficiency but the depth and quality of evidence varies, along with the final assumptions derived. All GDNs consider that the benefits to consumers of comparative competition, as a result of the sale of GDNs by National Grid in 2005, have been realised. There is however a lack of evidence provided by all as to why, over RIIO-GD1, they will no longer be able to achieve the cost savings they are achieving currently.

## Resources – efficient financial costs

2.35. Financial costs consist of two distinct elements: technical accounting costs (RAV, capitalisation, pensions and tax), and corporate finance costs (allowed return, depreciation, financeability and transitional arrangements). A well-justified business plan would include, with regard to both technical accounting and corporate finance all the key content, reflect our policies and represent efficient costs to consumers supported by relevant evidence.

*Overview of companies' performance in relation to financial costs*

Technical accounting

2.36. All of the companies provided the data required with few data inconsistencies. In general, the treatment of technical accounting issues was well supported and justified with the exception of the pension valuations used by SGN and WWU which did not comply with our policies. The business plan narratives addressed the key issues, and provided supporting evidence for GDNs proposals. In general, the GDNs accepted our policies in these areas with limited exceptions.

2.37. Outstanding technical issues for all companies include confirmation of opening RAV balances and the GDPCR1 pension reconciliation. In addition, all companies are subject to the on-going pensions review.

Corporate finance

2.38. All of the companies provided material produced by external consultants to support their cost of equity proposals. NGGD, NGN and WWU provided plans which included risk-based arguments to support their cost of equity assumptions and NGGD

and NGN both consider a number of approaches to achieve financeability. In contrast, SGN provided least content to support its proposals, which in a number of key areas are not consistent with our own policies (see below).

2.39. As set out in our March strategy decision, our primary proposals include annually setting the cost of debt allowance based on an index, full capitalisation of repex, and the application of a front-loaded depreciation profile for post-2002 assets. All GDNs accepted our repex capitalisation proposals, although NGN, WWU and three out of the four NGGD licensees sought transitional arrangements in order to mitigate the cash flow implications. NGGD and NGN accepted our proposed approach to the cost of debt index (the latter with reservations), while SGN and WWU included an uplift of 60 and 35 basis points (bps) respectively to account for costs they considered were not captured by the index.

2.40. SGN departed from our policy by applying a front loaded depreciation profile to a 38 year asset life, as opposed to our assumed asset life of 45 years. We do not consider that their plan provided a clear justification for their shorter asset life assumption.

2.41. **Efficiency of costs:** There are two broad areas where we need to ensure costs are efficient – the cost of equity proposals and the overall financing approach including notional gearing, dividends, equity issuance and any transitional arrangements. NGGD and NGN's cost of equity proposals (7.2 per cent real post-tax) were at the top-end of the range we set out in our March strategy decision (6.0-7.2 per cent), while SGN and WWU proposed a cost of equity outside of our range at 7.5 per cent. In relation to all GDNs' cost of equity proposals, we did not find their proposals were well-evidenced.

2.42. By contrast, we consider the GDNs common assumption of a 5 per cent notional dividend rate was evidence-based.

2.43. NGGD and WWU submitted the most detailed risk analysis, while NGGD also provided detailed financeability assessment under a range of scenarios. WWU financeability assessment focused on a single credit ratio. NGN and SGN provided assessment against several ratios but did not provide alternative scenarios to demonstrate that their proposed approach to financeability was the most efficient. NGN also assessed financeability against several ratios, as well as identifying and considering the implications of different approaches to achieving financeability.

2.44. Overall, we would only expect set a cost of equity allowance at the top of our range (6-7.2 per cent real post-tax) if there was a clear reason to support such an allowance. In general, the GDNs' business plans reflect businesses approaching steady-state with relatively moderate forecast RAV growth. Consistent with this the GDNs have requested reasonably high dividend payout ratios and have not identified the need for notional equity issuance. Given this background, it does not seem consistent to us that the GDNs should also request a cost of equity at the top-end or above the range set out in our March strategy decision. However, we note that we still have to agree overall totex allowances, finalise incentive arrangements, and uncertainty mechanisms, which could have implications for our decision on financing

costs. Until we resolve these issues, we do not intend to amend our current cost of equity range of 6-7.2 per cent.

## Uncertainty and risk

*Requirements of a well-justified plan*

2.45. In relation to the treatment of uncertainty and risk in the business plans we were looking for the GDNs to set out:

- a reasonable overview of the uncertainties to manage over RIIO-GD1
- a robust assessment of key risks with quantification of the potential impacts on output delivery, forecast costs and planned expenditure
- a risk management approach based on the principle that risks should be borne by the party best able to manage them
- a clear justification for any proposed uncertainty mechanisms.

*Overview of companies' performance in relation to uncertainty and risk*

2.46. All GDNs' plans clearly identified areas of risk and the potential costs and other impacts should those risks materialise. There is however a difference in the level and quality of the analysis to support their conclusions. NGGD provided the most comprehensive, and measured identification of risks and approach to dealing with uncertainties. However, across the plans, there was limited use of stakeholders' views to help support the GDNs' proposals for the treatment of uncertain costs, including uncertainty mechanisms.

2.47. In our March strategy decision, we considered that we would need to deal with street works costs; centre for the protection of national infrastructure (CPNI) mandated costs; changes to the connection boundary; and, changes to the fuel poor network extensions scheme through RIIO-GD1 specific uncertainty mechanisms.[6]

2.48. With the exception of NGN which accepted our proposals, the GDNs suggested a number of additional/amended uncertainty mechanisms to those proposed by us. The roll-out of smart meters and the impact this will have on the GDNs' businesses (both in terms of the costs of the emergency service, and the direct costs of supporting the roll-out) was a common concern for all GDNs, and two of the GDNs proposed an uncertainty mechanism to deal with this issue. NGGD and SGN also proposed changes to our approach to dealing with street works costs. In order for us to agree to the design of additional mechanisms we will need to understand the detail of the GDNs' proposals in more detail. We will work with the GDNs and other stakeholders to gain a better understanding of the risks associated with these two areas in order to find the most appropriate treatment going forward.

[6] In addition, we proposed a number of uncertainty mechanisms common to RIIO-T1 and GD1, including in relation to finance costs.

2.49. In our March strategy decision we made it clear that the charging volatility created by the price control regime was an area of concern to us and network users. We encouraged the GDNs to think about volatility in the context of their business plan submissions both in terms of any additional uncertainty or incentive mechanisms, as well as whether there was an overarching need to mitigate charging volatility on shippers/suppliers and ultimately their customers. However, one respondent to the plans considered that the GDNs' discussion of this issue was on the whole disappointing, and we agree. Of the set of GDNs, only SGN considered this issue in any detail. We intend to take-forward this issue as part of a wider consultation on charging volatility which will cover all three network price controls (ie RIIO-T1, ED1 and GD1).

# 3. Key issues and next steps

**Chapter Summary**

This chapter sets out the key common industry issues that we need to address with GDNs and other stakeholders, and our proposed next steps.

3.1. In this chapter we set out the material issues that we have identified as part of our initial assessment which are common to the set of GDNs, and how we plan to address these.

3.2. Our overall objective is to resolve the material issues with the GDNs prior to the submission of their business plans on 27 April 2012. In particular, our intention is to obtain sufficient resolution on the issues integral to GDNs' plans such that GDNs will be in a position to submit business plans in April which are broadly acceptable to us, and that we could potentially use as the basis for our July initial proposals. The prospect for us adopting GDNs' revised plans (or elements of their revised plans) as the basis for our July initial proposals document should provide an incentive for GDNs to submit high quality plans.

3.3. We also propose to use the GDNs' second business plans costs as the basis for our benchmarking analysis, and in determining the reward (or penalty) GDNs will receive as part of our IQI framework.[7] The use of their second submission cost data should also provide incentives for companies to submit well-justified plans.

3.4. We do not expect to be able to resolve all issues prior to GDNs' re-submissions in April. Thus, before April we will focus first on those issues that are integral to companies' plans, and to a lesser extent on these issues that can be resolved post-April. We consider the priority issues we need to resolve are the set of issues around repex, the GDNs' approach to cost benefit analysis for other asset classes and refining the comparative efficiency analysis. The wider set of common industry issues comprise:

- Repex (and wider approach to CBA)
- Robustness of asset health data and assumptions for deterioration
- Smart Metering and loss of metering
- Street works costs
- Low pressure gas holder costs
- Comparative efficiency analysis
- Social outputs (fuel poor networks and CO outputs)

[7] For an explanation of the IQI incentive mechanism and reward/penalty see: Ofgem (March 2011) Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Business plans, innovation and efficiency incentives, Ch 6 & para. 6.27. Link: http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/GD1decisionbusplan.pdf

3.5. We discuss these issues in more detail below.

## Repex and approach to CBA

3.6. GDNs have an absolute duty under the Pipelines Safety Regulations (1996) to ensure their pipelines are maintained in an efficient state, in efficient working order and in good repair. However, in the case of iron mains, GDNs have protection under the Pipelines Safety Regulations 2003 (Reg 13a) which provides a defence against this absolute duty provided an agreed iron mains programme has been met.

3.7. Three of the four GDNs – NGGD, WWU and SGN – have expressed concern over the implications upon their obligations under existing legislation under the Health and Safety Executive's (HSE's) new three-tier approach to iron mains, and whether they will still be protected under PSR13a. However, the HSE has stated that network companies will benefit from the protection under PSR13a where they comply with the new 3-tier approach. Therefore, we expect GDNs to work with the HSE to ensure that the HSE is satisfied with their proposed plans.

3.8. In Appendix 3, we set out comparative repex data for the GDNs.

### Tier 2 thresholds

3.9. The GDNs have adopted very different approaches to the determination of tier 2 thresholds. The proposed thresholds range from 51 in WWU (in the urban sections of their network) to 224 in NGGD's West Midlands network. By contrast, SGN has not set out a risk threshold and their programme is based on the continuation of a fixed volume of work relating to pipes within this diameter range.

3.10. We intend to develop a common approach to the tier 2 threshold in advance of the companies' April submissions. This potentially could involve thresholds set in relation to population density, although in such a case we would expect similar thresholds for areas with similar population densities. We intend to work with the HSE and GDNs to develop a common approach.

### Cost benefit analysis

3.11. We need to understand the basis for companies' approach to cost benefit analysis (CBA), including their conceptual approach and their detailed assumptions. No GDN submitted detailed analysis of their CBA within their plans. We have requested their models, and we are currently undertaking a detailed review with the GDNs.

3.12. We intend to develop a common approach to CBA modelling for use by companies in their April submissions. For example, we intend to issue common guidance on the approach to discount rates, asset life assumptions, and how to deal with uncertainty (ie in relation to the asset life or data quality). We also need to correct for any conceptual errors in the approaches adopted by the GDNs.

3.13. We also intend to extend our analysis to the CBA models developed by GDNs for other asset classes, and we will require GDNs to use the common CBA methodology across their entire investment plan.

**Outputs**

3.14. GDNs have set out the risk reduction associated with mains replacement. However, they have not always explained the costs associated with achieving the reduction in risk, and how this compares to other possible investments. Furthermore, where the GDNs' proposed investment is justified by savings in other areas of the business, we require such linkages and cost savings to be explicitly shown.

3.15. There are significant differences in the secondary deliverables for repex forecast by the network companies. We need to compare evidence for the assumptions made that lead to these forecasts and their impact on CBA in the various activities.

**Service replacement**

3.16. GDNs are proposing high service replacement levels and costs, consistent with current levels within GDPCR1. The GDNs present minimal evidence of the level of risk associated with this asset group, and limited discussion of the options available to maximise the effectiveness of a service replacement programme in RIIO-GD1.

3.17. We would expect a greater understanding of the condition of assets, the risk they pose, and analysis as to the optimal delivery taking both costs and benefits into account. This may examine, for example, strategies based around co-ordination with the roll-out of smart metering, or assess the benefits of undertaking replacement activity independently of mains replacement.

## Asset health, criticality and risk data

3.18. The GDNs have made significant progress in developing asset health, criticality and risk data in support of their investment programmes. Three of the four companies submitted asset health, criticality and risk data. SGN still needs to complete this work. We note GDNs generally place greater emphasis on health indices as opposed to risk indices in support of their investment plans, effectively ignoring consequence of asset failure. Overall, the GDNs do not provide sufficient explanation of the relationship between asset health, criticality, risk and the proposed integrity related workload.

3.19. We intend to carry out further work with the GDNs to clarify the position on the current status of their asset data, the extent of any necessary additional surveying and assessment work, and in particular the robustness of deterioration assumptions which drive asset integrity investment. We also expect to gain a clearer understanding through our work with the GDNs on the approach to CBA.

3.20. As set out in our March strategy decision, we only intend to fund asset plans which are predicated on robust data. Where we consider the asset data are not robust, we will consider using the mid period review as an opportunity to further assess companies' required asset integrity expenditure.

## Smart Metering and loss of metering

3.21. The roll-out of smart meters will occur during the RIIO-GD1 period. The GDNs have assumed different impacts on their businesses from the roll-out. For example, GDNs have made different assumptions in relation to the effect on public reported escapes (PREs), repairs, service alterations and a requirement for an increased number of first call operatives (FCOs) and their associated equipment (e.g. vehicles).

3.22. Where the GDNs have provided costs, the cost estimates range from between £20m and £109m per GDN over the RIIO-GD1 period. NGGD and SGN include the additional costs associated with smart metering as part of their increase emergency service funding (see Table 3.1).

3.23. We will require a clear understanding of assumptions that support costs and increased workloads in order to be able to carry out consistent comparisons of opex and repex and expect a broadly consistent approach across GDNs to delivering the smart metering roll-out.

3.24. We need to establish the network roles in relation to smart metering which we will do in an anticipated working group with DECC and the GDNs. Once we have established the network responsibilities, we intend to agree on a common treatment of costs with GDNs (eg whether such costs should be addressed within an ex ante allowance or alternatively by an uncertainty mechanism) or a combination of the two, as well as develop common assumptions in relation to the expected impact on GDNs' costs.

**Table 3.1: Comparative Smart Metering costs (£m) in RIIO-GD1**

| | Volume - per cent increase on PREs | Opex | Repex | Capex | Total | Uncertainty mechanism proposed? |
|---|---|---|---|---|---|---|
| **EoE** | 5% | Costs included as part of a fully funded emergency service and are not clearly identifiable | | | | No |
| **Lon** | 5% | | | | | No |
| **NW** | 5% | | | | | No |
| **WM** | 5% | | | | | No |
| **NGN** | c. 10% | 15.0 | 5.0 | - | 20.0 | No (for industry discussion) |
| **Sc** | 3% | Costs included as part of a 95 per cent funded emergency service and are not clearly identifiable | | | | Yes |
| **So** | 4% | | | | | Yes |
| **WWU** | 28% of supplier installations (translates as 47% of PRE volumes) | 69.0 | 33.8 | 6.2 | 109.0 | Yes |

## Street works

3.25. We recognise that street works will affect the GDNs in different ways and at different times as it is driven by local authorities' strategies which can vary across the different networks. Traffic Management Act permit schemes already exist within many local authorities in the North London and Southern networks which was recognised in the recent reopener determination.[8] Additionally there is uncertainty over how lane rental will affect the GDNs and new costs that may affect Scotland.

3.26. We also recognise the uncertainty of street works costs, proposing a re-opener in 2015 and 2018 in our March strategy decision. However, in their business plan submissions, the GDNs propose modifications to our re-opener proposal and/or propose additional uncertainty mechanisms for schemes not yet rolled out.

3.27. The GDNs' forecasts include different strategies based on known information and costs as proposed by the local authorities within their network. However, to support their request for uncertainty mechanisms, all GDNs identify potential risks and related costs in addition to risks due to potential future legislation development and change.

3.28. We intend to discuss with the GDNs their proposals for street works in greater detail with the objective of developing a consistent approach across GDNs' plans.

[8] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=545&refer=Networks/GasDistr/GDPCR7-13

**Table 3.2: Comparative street works costs (£m) in RIIO-GD1**

| | Opex | Repex | Capex | Total |
|---|---|---|---|---|
| **EoE** | 10.0 | 81.7 | 10.2 | **102.0** |
| **Lon** | 45.2 | 284.1 | 62.8 | **392.1** |
| **NW** | 5.7 | 94.1 | 9.8 | **109.6** |
| **WM** | 1.0 | 12.6 | 1.7 | **15.3** |
| **NGN** | 5.3 | 10.8 | 3.3 | **19.4** |
| **Sc** | 5.9 | 17.5 | 3.2 | **26.6** |
| **So** | 17.6 | 94.2 | 10.6 | **122.4** |
| **WWU** | 13.2 | 3.7 | 6.2 | **23.1** |

## Low pressure gasholders

3.29. All companies submitted a plan to decommission and demolish their entire fleet of low pressure (LP) gasholders as part of their asset management strategy. With the exception of NGGD, whose plan extends to RIIO-GD2, all other companies plan to complete the removal of holders by the end of RIIO-GD1.

3.30. The companies generally argued that the removal of gasholders is cost effective as these assets are expensive to maintain and their removal will remove safety risks and land development restrictions associated with these assets. Companies also mentioned the increasing cost of compliance with the Control of Major Accident Hazards Regulations (COMAH) and the Work at Heights regulation.

3.31. The total cost of the companies' holder removal programme is circa £350m over the eight years of RIIO-GD1. This cost includes demolition of the holders, remediation of the land and associated capex costs (either to substitute for the lost storage capacity or to upgrade other network assets as a result of the decommissioned holders). Table 3.3 demonstrates the breakdown of workload and costs across companies.

3.32. Our initial assessment of the plans revealed wide variations in terms of the approach to land remediation, as well as the unit cost of demolition and the ensuing capex cost. This is reflected in Table 3.3.

3.33. For example, while NGN and WWU intend to remediate the land of demolished holder sites only to the statutory level, NGGD and SGN intend to commercially remediate the land.

3.34. We intend to examine the CBA that underpins the holder removal programme in order to understand (i) the case for their removal, (ii) the prioritisation mechanism for decommissioning and demolition, and (iii) the efficient speed at which the programme should be executed. We will also look further at the justification for the approach to land remediation.

**Table 3.3: Workload and costs of the LP gasholder removal programme**

| | NGGD | NGN | SGN | WWU |
|---|---|---|---|---|
| Number of holders by start of RIIO-GD1 (operational holders) | 199 (0) | 47 (43) | 111 (37) | 15 (4) |
| Number of holders to demolish during RIIO-GD1 | 129 | 47 | 111 | 15 |
| **Total spend over RIIO-GD1[1]** | | | | |
| Holder demolition (unit cost) | £70.5m (£0.55m) | £19.3m (£0.41m) | £101.5m (£0.91m) | £6.3m (£0.39m) |
| Land remediation | £47m | | £49m | Not clearly identified |
| Capex | - | £22.8m | £6.4m | £22.4m |
| **Total cost** | **£117.5m** | **£42.1m** | **£156.9m** | **£28.7m[2]** |

1 2009-10 prices
2 Excluding land remediation costs.

## Comparative efficiency modelling

3.35. We have undertaken an initial comparative efficiency modelling to compare standardised cost levels across GDNs. We recognise that some differences in costs between GDNs can be explained by factors that are outside the network operators' control. These factors include direct and contract labour costs differences between London and the rest of the UK. They also include company specific factors arising from for example urbanity and sparsity effects.

3.36. We note that GDNs submitted a range of regional and company specific factors within their plans that we need to consider within our comparative efficiency modelling. We also note that some companies (notably NGGD) have proposed alternative cost drivers for the regression models. We intend to discuss these issues within a cost working group.

3.37. Figure 3.1 presents a comparative efficiency modelling for tier 1 repex. The regression analysis illustrates the relative efficiency of the GDNs' tier 1 repex relative to the workload, and in Table 3.4 the corresponding efficiency rankings in the first and last year of RIIO-GD1.

3.38. The regression analysis does not take into account all the regional labour and company specific factors proposed by the GDNs, which we are still developing. We therefore recognise that it does not assess GDNs' costs on a comparable basis. However, it presents an indicative view of one of the approaches we plan to use for our comparative assessment of GDNs' RIIO-GD1 forecast costs.

**Figure 3.1: Tier 1 replacement expenditure regression**

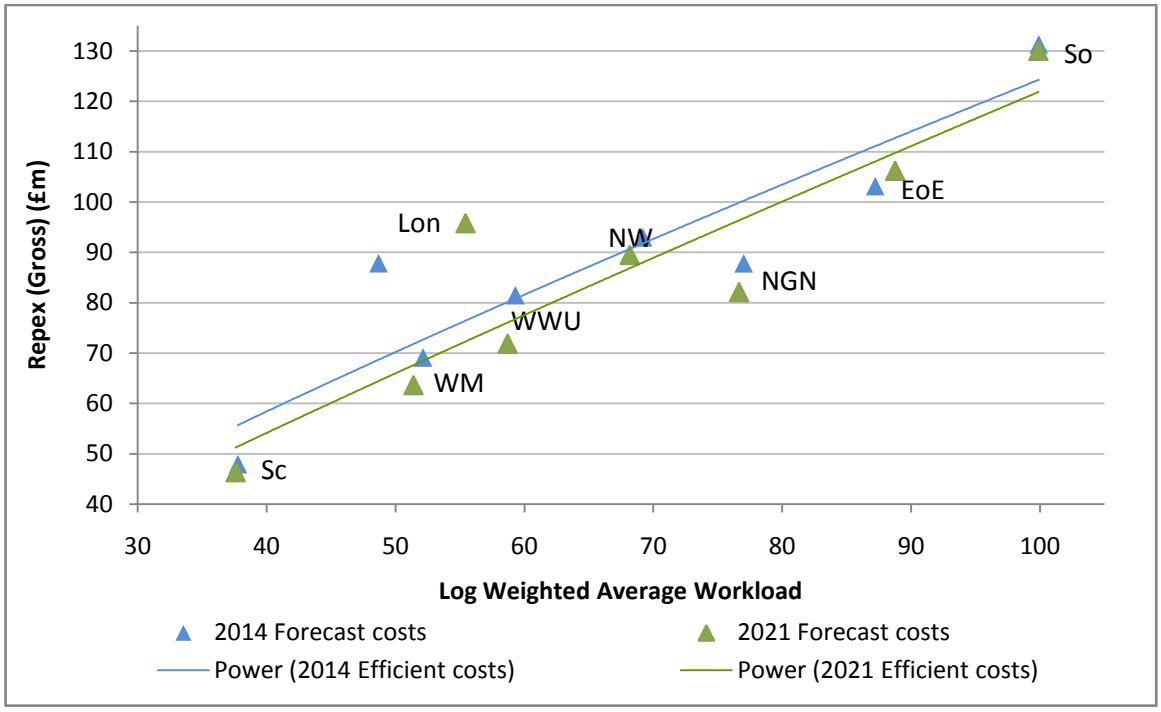


**Table 3.4: Tier 1 replacement expenditure efficiency ranking**

| | Efficiency ranking | |
|---|---|---|
| | 2013/14 | 2021/22 |
| EoE | 3 | 5 |
| London | **8** | **8** |
| NW | 6 | 6 |
| WM | 4 | 3 |
| NGN | 2 | **1** |
| SC | **1** | 2 |
| SO | 7 | 7 |
| WW | 5 | 4 |

## Social outputs

3.39. All companies' submitted proposals to address incidence of carbon monoxide (CO) poisoning drawing on evidence from their recent trials. However, GDNs have proposed different approaches to increase awareness, and different approaches to measuring the effectiveness of their intended programmes. We intend to discuss with the GDNs and other stakeholders how we can develop a consistent approach across the industry (where desirable) drawing on different aspects of GDNs' plans. In relation to fuel poor network extensions, where the GDNs set out similar levels of connections, we also intend to discuss with the industry how we can improve the robustness of the proposed level of connections that the GDNs consider are cost-effective.

# 4. Assessment of NGGD's business plan

**Chapter Summary**

This chapter provides our assessment of the National Grid Gas Distribution (NGGD) business plan.

## Overall assessment

4.1. Figure 4.1 sets out our overall assessment of NGGD's plan against each of the five broad categories. We note the following key points:

4.2. NGGD submitted a comprehensive business plan which contained a clear and structured framework for dealing with many of the key business plan issues, eg in relation to uncertainty, cost efficiency, and their financing requirements. We also consider that their stakeholder engagement process was robust. Therefore, we do not intend to require NGGD to undertake detailed further work on their internal or external business plan development processes.

4.3. We consider that their approach to non-asset related outputs (ie customer services, social and environmental outputs) is generally acceptable, although we intend to do further work with companies in relation to fuel poor network and CO outputs. In relation to asset related outputs (ie safety, reliability and connections), the key areas where we need to do further work include: understanding NGGDs cost benefit analysis (CBA) supporting non-mandatory iron mains and other asset classes (with the objective of developing a common industry approach); London repex strategy; reinforcement and connection costs in London; and, how to deal with uncertainty over the future use of gas networks, and asset health data, in formulating their plan.

4.4. NGGD has submitted a business plan based on closing the efficiency gap with other GDNs, where the analysis is based on changes to the econometric models we published in our March strategy decision. We intend to undertake further analysis on comparative efficiency modelling. NGGD has submitted high real price effects (relative to other GDNs) which we do not consider are well-evidenced.

4.5. NGGD has submitted a comprehensive analysis of its required financing arrangements. However, we do not consider that its proposals are efficient in relation to the cost of equity (7.2 per cent real post-tax) nor proposed level of notional gearing (53 per cent).

4.6. We need to undertake further work with NGGD in relation to their proposal for dealing with street works costs. There are also industry-wide issues that we will need to consider with NGGD in relation to smart meters.

4.7. Overall, we decided not to retain NGGD within the fast-track process given the number of issues that we would need to resolve in the compressed timetable, notably in relation to their asset investment strategy (eg establishing a common industry approach to CBA, as well as resolving NGGD specific issues), as well as their proposed unit costs**.**

**Figure 4.1. Assessment of NGGD's Business Plan**

| Category | Sub-category | NGGD |
|---|---|---|
| Process | | |
| Outputs | | |
| Cost efficiency | *Strategy* | |
| | *Efficient delivery* | |
| Financial arrangements | *Financeability* | |
| | *Technical accounting* | |
| Uncertainty | | |

## Assessment of process

### Key content, structure, and completion of data templates

4.8. NGGD provided a clear and concise summary for stakeholders, as well as a more detailed "Overview of the Plan". The detailed information is contained in supporting documents and appendices and is clearly signposted. The business plan templates and financial model contained no material inconsistencies, and were consistent with the business plan narrative.

4.9. The plan contains all of the key elements we set out in our business plan guidance, and provides the most clear and structured approach to addressing some of the core business plan issues, including uncertainty, cost efficiency, and financing costs. For example, in their approach to uncertainty and risk the plan sets out a transparent framework for assessing who should bear risk during the price control based on the identification of exogenous factors, and the prospective volatility and materiality of such factors.[9]

4.10. In relation to the external context, the plan contains a section on the external context, which identifies the key issues facing the gas distribution sector, including uncertainty with regard to network use (including scope for biogas). The NGGD plan is predicated on a decline in gas network utilisation, and they state that the expected decline in peak demand has been taken into account in the way they manage their

[9] See NGGD (30 November 2011), Business plan Ch.11, p.19.

business (eg in terms of output capacity). However, we note that the gas scenario is different to the gone green scenario which was the basis for the NGGT/NGET plan.[10]

4.11. In common with other plans, we require NGGD to provide greater detail around its asset investment plans (notably the CBA supporting the plans). We also intend to discuss with NGGD (and all other GDNs) how to accommodate uncertainty over future network use in their asset investment plans (as discussed in NGGD's external context). We will also need to undertake further engagement with NGGD in relation to their analysis on cost efficiency. We comment on these issues in more detail under our assessment of their cost efficiency.

**Effective engagement and reflection of stakeholders' views**

4.12. We consider that NGGD stakeholder engagement process was robust. They initiated their stakeholder engagement – referred to as 'Talking Networks' – early in price review process (July 2010). At this early stage, they considered how best to engage with a wide range of different stakeholders. They subsequently adopted a number of different approaches including workshops, focus groups, quantitative and qualitative research. NGGD phased their engagement activities to firstly understand priorities and key issues before identifying solutions and stakeholders' willingness to pay.

4.13. In presenting their business plan, NGGD has set out how engagement has been used to inform their plan and where their initial stance has changed following feedback. They have also set out examples where they considered it was not appropriate to adopt suggestions from stakeholders, such as FCOs undertaking repairs to reinstate appliances. In some instances it was not clear where a stakeholder had rejected a suggestion whether NGGD had explored other solutions that may have been viable. As an example, we note that stakeholders suggested undertaking repairs for vulnerable households when a repair cannot be undertaken following an emergency visit. NGGD did not include this proposal within their plans, however, it is not clear to us whether NGGD explored alternative options which might have been acceptable.

## Assessment of outputs

*Customer satisfaction*

4.14. NGGD's proposals are consistent with the outputs set out in our March strategy decision. In addition to these, NGGD has proposed additional outputs they believe will help to manage the costs and reduce disruption to customers arising from street works. These new outputs will involve reporting on the actual versus the planned duration of street works and also the quality of the reinstatement works.

[10] See NGGD (30 November 2011), NGGD Business plan Ch 3, p14

4.15. NGGD has requested an additional expenditure allowance of £500k per annum to meet the challenge of delivering services in London to an equivalent level to those delivered elsewhere. NGGD has provided research indicating the differing expectations for service that are held by consumers in London. Our initial view is that the research does not justify the requested additional allowance; however, we intend to consider this issue in more detail in the next stage of our assessment.

*Social outputs – reducing risk associated with carbon monoxide (CO) poisoning*

4.16. NGGD has proposed carbon monoxide (CO) advisory services to customers, either as part of an attendance to a report of a gas escape or by providing a proactive visit arranged with the customer. NGGD estimates that this could result in around 2.1 million customers receiving such advice during RIIO-GD1. As an output measure NGGD has proposed to instigate a quarterly survey of customers who receive this service to assess its effectiveness. NGGD's proposals reflect lessons from the trials conducted in the current price control and feedback they have received through stakeholder engagement.

4.17. One respondent expressed disappointment with NGGD's proposed approach to addressing carbon monoxide (CO) issues. They were concerned that the proposals did not go beyond current practice; the respondent also considered that the NGGD's stakeholder responses had been selectively used in support of their proposals.

4.18. We intend to hold an industry-wide working group to discuss the proposals set out by all GDNs (including NGGD's) in order to identify the optimal way-forward in addressing CO issues. In particular, we consider there is potential merit in ensuring a common approach to the output measure to enable a comparative assessment of GDN performance over RIIO-GD1.

*Social outputs – fuel poor network extensions*

4.19. NGGD's proposals for connecting fuel poor customers to the distribution network are consistent with our March strategy decision. One of NGGD's key commitments is to facilitate an additional 35,000 fuel poor connections. The plan describes key uncertainties around this output level, including our proposed review to ensure that gas network extensions is least cost, and commits to collecting the required data to support the review of the scheme in 2014.

4.20. However, in common with other GDNs, it is not clear to us how NGGD has identified the overall number of fuel poor customers off-network and eligible for the scheme, the costs of connecting these customers, and therefore the basis for the their proposed number of connections, as well as the proposed cost levels. This is a common issue with all GDNs plans, and we intend to discuss with GDNs how they can improve their output/cost estimates prior to their April re-submission.

*Connections policy*

4.21. NGGD has committed to developing a new entry connection process to facilitate new sources of gas onto their network, although at present there is only limited data to determine minimum timescales for the connections process. Further work is required during the RIIO-GD1 control period to develop and implement standards for the connection of gas entry customers.

*Environmental outputs (excluding shrinkage)*

4.22. Environmental issues address the broad environmental objective of contributing fully to the overall change to a sustainable energy sector, and include information provision and connection charging for distributed gas, business carbon footprint (BCF) and other emissions and natural resource use.

4.23. The NGGD plan sets out various commitments in line with the environmental focus, but does not provide sufficient detail of how the commitments will be achieved. NGGD states that their forecast bio-methane connections are consistent with government targets. NGGD sets out commitments to reduce their BCF predicated in part on the adoption of Compressed Natural Gas (CNG) vehicle fleet.

4.24. NGGD discuss the potential for improvement in relation to other aspects of their environmental impact, including land remediation, aggregate extraction and spoil to landfill but state that they cannot provide robust forecasts. As set out in our March strategy decision, we intend to assess GDNs' performance against their projected baselines for these outputs and we will need to discuss with NGGD the obstacles to providing forecasts.

*Environmental outputs (shrinkage and environmental emissions incentive)*

4.25. NGGD's plan follows our policy position on shrinkage and leakage as set out in our strategy decision. NGGD proposes to use smart metering data to gain a greater understanding of the volume of unaccounted gas (including that lost to shrinkage). We welcome their proposal, as well as their proposal to validate the leakage model using smart metering data.

4.26. We also note that NGGD has included changes to the leakage model in their 2011/12 and 2012/13 projections. We will need to consult with the industry before considering whether to approve such changes. We will take this forward as part of our more detailed work in assessing NGGD's leakage forecasts (ie to assess their consistency with proposed asset investment plans).

*Innovation strategy*

4.27. NGGD's innovation strategy sets out their views on the key challenges their business will face, and provides evidence that stakeholders have been consulted. The strategy sets out and prioritises the key work areas for the price control and links these to the challenges the company will face. We consider that the strategy could

be clearer about how the potential projects in each key work area will be developed and delivered.

4.28. In common with other GDNs, we intend to provide more detailed feedback to NGGD on their innovation strategy, and we expect NGGD to re-submit their strategy as part of their second business plan submission.

*Reliability*

4.29. NGGD has presented their reliability outputs in a similar way to their safety and other outputs, moving slightly away from the format set out in our March strategy decision. Some data is absent, for example that relating to offtake meter accuracy and fault/duration measures, with the intention of reporting actual performance through time.

4.30. Health, criticality and risk indices are provided but further detail on how they have been developed needs to be established for individual assets, to ensure measurements are consistent across asset groups. There needs to be greater information on risk associated with services to justify service replacement.

*Safety*

4.31. NGGD's safety outputs are presented in a format which moves away from the framework set out in our March strategy decision, and introduces new terminology, such as "leading indicators".

4.32. There are clear commitments for a range of activities, however we need to review the suitability of the approach taken. For example, remaining risk associated with gas holders is expressed as a percentage remaining from a baseline set at 2010/11 levels.

4.33. The projections for mains risk removed are provided along with other primary output commitments. A number of secondary output forecasts are however omitted with the intention of reporting actual performance through time. There is inadequate justification for maintaining current levels of services replacement in terms of the risk from services.

4.34. NGGD has included additional safety output measures and commitments to monitor their performance.

## Assessment of efficient expenditure

### Total expenditure

4.35. The proposed average annual controllable total expenditure for the RIIO-GD1 period is (with increase relative to first 3 years in GDPCR1 in parentheses):

- £284.7m (1.6 per cent) for East of England
- £305.5m (19.2 per cent) for London
- £227.4m (-5.3 per cent) for North West
- £165.6m (-2.9 per cent) for West Midlands.

4.36. NGGD has the lowest proposed increase in costs (excluding London) of all GDNs. However, the proposed changes have to be considered in the context of their relatively poor performance in relation to our comparative efficiency benchmarking.

4.37. NGGD (excluding London) has demonstrated the greatest commitment to conforming to the HSE's new repex policy which provides greater flexibility to GDNs in prioritising iron mains replacement. However, we still have concerns with their proposed unit costs and their repex strategy within London. We also consider that NGGD has developed the most considered approach in relation to integrity based expenditure. NGGD is the only GDN to have proposed a material reduction in costs relative to the first three years of GDPCR1. Their plan also shows clear linkages to their repex and capex programmes with safety and reliability outputs, and opex activities.

**Operational expenditure**

4.38. Table 4.1 sets out the proposed controllable operational expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 4.1 NGGD's forecasts of controllable opex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| EoE | 122.1 | 41% | 9% |
| Lon | 93.4 | 30% | 11% |
| NW | 90.3 | 38% | (0.4%) |
| WM | 63.9 | 37% | 5% |
| **NGGD** | **369.7** | **36%** | **7%** |

1 Excluding RPEs.

4.39. Generally, the business plan clearly sets out their cost proposals, and there are clear links to their capex and repex investment programmes. However, their cost proposals are less clear to us in relation to smart metering and street works. Additionally, there is inconsistency amongst the GDNs in relation to setting out the costs for gasholder decommissioning and smart metering. (We discuss the inconsistencies for the set of GDNs in Chapter 3.)

4.40. NGGD's plan sets out a significant reduction in external public reported escapes (PREs), repairs and leakage in relation to the repex programme. The benefits flowing from NGGD's repex programme to their opex activities are in line with our expectations and are also consistent with reductions in emergency and repair workload and leakage forecasts in NGN. (By contrast SGN and WWU forecast increased emergency and repairs workload due to high levels of network deterioration). NGGD also clearly set out the impact of their gasholder

decommissioning programme and other capital investments on their maintenance workload.

4.41. NGGD is forecasting the greatest reduction in business support costs relative to GDPCR1 (see Table 4.2), although we note a significant increase compared with the 2010-11 actuals. This increase is not sufficiently explained in their business narrative. Training and apprenticeship costs constitute the largest proposed increase in costs but we do not consider the plan provides clear evidence for this.

**Table 4.2: Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**

| | Direct Opex | | | | | | Indirect Opex |
|---|---|---|---|---|---|---|---|
| | Total Direct Opex | Work Management | Emergency | Repair | Maintenance | Other Direct Activities (excl. Xoserve) | Business Support (excl. R&D) |
| EoE | 11.4% | 14.4% | 25.9% | (16.5%) | 19.7% | (28.8%) | (3.1%) |
| Lon | 17.2% | 21.5% | 15.7% | 14.5% | (6.6%) | 60.0% | (12.7%) |
| NW | (1.5%) | 2.0% | 23.4% | (29.5%) | (2.6%) | (36.8%) | (6.0%) |
| WM | 6.0% | 3.6% | 29.0% | (20.1%) | 6.9% | (4.3%) | (5.5%) |
| **NGGD** | **8.6%** | **10.5%** | **23.1%** | **(10.1%)** | **5.9%** | **(2.7%)** | **(6.4%)** |

**Capital expenditure**

4.42. Table 4.3 sets out the proposed capital expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 4.3. NGGD's forecasts of capex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| EoE | 44.6 | 16.3% | (7.6 %) |
| Lon | 34.6 | 11.5% | (34.6 %) |
| NW | 28.8 | 13.2% | (21.7%) |
| WM | 22.1 | 13.9% | (18.8%) |
| **NGGD** | **130.0** | **13.7%** | **(21.2%)** |

[1] Excluding RPEs.

4.43. NGGD plan to reduce spend on capex by 21 per cent compared to average annual capex investment during GDPCR1 (see Table 4.3). Their investment on capex represents the smallest proportion of total expenditure (14 per cent) compared to other GDNs.

4.44. In general, the capex sections of NGGD's business plan are comprehensive and clearly presented; cost changes are detailed and well explained. The plan contains a proportionate level of integrity information for a number of key asset categories, clearly setting out the rationale and options identified to manage the

issues. However, in the case of LTS and storage, notably in relation to the East of England network, we consider that there is insufficient evidence to support significant proposed remedial, replacement and update work.

4.45. NGGD has considered the optimisation of total costs, eg managing pipeline integrity through maintenance alternatives as a lower cost option than replacing pipes.

4.46. There are areas of capex where there is no discussion of the consideration of innovative solutions. The consideration of innovative techniques is central to the new RIIO framework. For example there is no discussion of the potential use of renewable energy sources for gas pre-heating. This issue is common to other GDNs.

4.47. NGGD has forecast expenditure of £136m on reinforcement and £216m on connections during RIIO-GD1; this represents increases of 215 per cent and 49 per cent respectively compared to GDPCR1 annual averages (see Table 4.4). We do not consider that there is clear evidence in support of these expenditures, particularly given NGGD's assumption that average peak demand decreases by 8 per cent over the RIIO-GD1 period.

4.48. Reinforcement and connection costs for NGGD's London network are significantly higher compared to average GDPCR1 levels and spend in these areas by other networks. The increase in reinforcement costs may be partly attributed to the London repex project, where we require further clarity. However, NGGD plan provides evidence that they have adopted an integrated asset management approach.

4.49. The high expenditure forecasts in London are partly explained by street works costs. However, the business plan does not clearly set out assumptions used to forecast street works costs. Further work is required to fully understand the drivers of high reinforcement and connections costs in London.

4.50. We consider the business plan lacks sufficient evidence needed to assess 'other capex' which constitutes 6.5 per cent of NGGD's proposed total expenditure.[11]

4.51. We have concerns about the proposed workload volumes for governor replacement. As NGGD acknowledge in their plan, there is limited data on asset health and deterioration rates, and limited sampling of the district governor population. We also note the variance in district and service governor unit costs, where we require greater explanation (given centralised purchasing arrangements).

[11] Other capex includes IT system operations, infrastructure, systems and Xoserve, land and buildings, telecoms and office, security, furniture and fittings, tools and equipment, plant and equipment, vehicles and any 'other' capex items which are not captured by the categories listed.

4.52. No evidence is provided to support the workload volumes proposed for the remediation of a proportion of the pressure reduction installations (PRIs) having capacity constraints.

4.53. NGGD forecast spending £213m on IT capex during RIIO-GD1, which represents 2.8 per cent of total expenditure. They provide clear information to describe their IT strategy but the evidence lacks detail and does little to provide any cost benefit analysis to support the proposed expenditure.

4.54. The increase in tools and equipment expenditure has been explained in the context of increasing breakdown frequencies. However, we do not consider there is sufficient evidence to support the proposed costs.

**Table 4.4: Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**[1]

| GDN | Total Capex | LTS & storage | Reinforcement | Governor (renewal) | Connections | Other Capex |
|---|---|---|---|---|---|---|
| EoE | (7.6 %) | 41.4% | 164.7% | 10.4% | 11.2% | (31.0%) |
| Lon | (34.6 %) | (88.6 %) | 2,044% | (69.2 %) | 167.4% | (36.0%) |
| NW | (21.7%) | 50.6% | 38.0% | (52.9%) | 19.1% | (42.3%) |
| WM | (18.8%) | 85.6% | 26.4% | (89.7%) | 29.6% | (35.5%) |
| **NGGD** | **(21.2%)** | **(50.8%)** | **214.9%** | **(61.6%)** | **48.9%** | **(35.9%)** |

[1] Cost movements are based on best available data from RRP returns and BPDTs. Note there are some issues of comparability of data between the two price control periods. In the case of governors further investigation will be required in order to fully understand cost movements between the two reporting periods.

**Replacement expenditure**

4.55. Table 4.5 sets out the proposed replacement expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 4.5: NGGD's forecasts of repex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| EoE | 117.9 | 43.2% | (2.0 %) |
| Lon | 177.5 | 59.3% | 48.5% |
| NW | 108.3 | 49.6% | (3.8%) |
| WM | 79.7 | 50.2% | (3.5%) |
| **NGGD** | **483.4** | **50.9%** | **11.1%** |

[1] Excluding RPEs.

4.56. NGGD submitted a substantial business plan for repex containing a greater level of detail than other companies. The plan includes a clear description of their repex strategy and serves as a good example of an integrated approach to asset management.

4.57. One issue that we need to resolve is the impact of the repex programme on risk reduction which is not clear to us in the plan. This is a particular issue for proposals around service repex associated with iron mains, and a common issue for all GDNs.

4.58. NGGD reduced the mandatory iron mains replacement workload in three of their four networks as a result of the three-tier policy for iron mains, and quantified this as savings of £1bn over the RIIO-GD1 period compared with the estimated cost under current policy. They achieve this through workload reductions in tiers 2 and 3.

4.59. We need to consider in more detail the overall delivery efficiency of the repex programme. We note the escalating annual costs in delivering mandated work in all four networks from GDPCR1 levels and we consider that NGGD's unit costs for delivering this work are high relative to other GDNs from our comparative analysis to date.

4.60. NGGD plans to replace 105km of the 9 inch iron mains in three of the four networks (East of England, West Midlands and London). This is based on a cost benefit assessment that considers current fracture rates. We are concerned that NGGDs has considered the costs and benefits associated with the entire population to justify the proposed expenditure instead of examining the CBA in relation to individual pipes in order to define an overall programme. That is, we are concerned that there are individual pipes within their proposed programme which may not be justified in CBA terms in their own right. We intend to discuss this issue with NGGD within the scope of our review of the CBA modelling.

4.61. NGGD has proposed to replace a further 293km of tier 2 pipes where they are contiguous to a mandatory pipe. NGGD notes that such contiguous pipes would need to be replaced under the tier 2 mandatory programme if they were to experience a single fracture, and they consider it is efficient to do the work now. We need to consider the economic benefits of their proposal, and we will consider this in the context of our review of their CBA analysis.

4.62. NGGD has proposed a significant non-mandatory tier 3 project spanning two price control periods in London at a cost of £171m. In addition there is associated capex for reinforcement and other works further escalating the total cost. We require greater clarity from NGGD in relation to the total cost of delivering the project, evidence to support the proposed project, and evidence that the solution is optimal.

4.63. A more detailed assessment of the outputs associated with non-mandatory projects is required, to examine the feasibility of alternatives to pipeline replacement. For example, for the London tier 3 programme, we would expect to see an assessment of the cause of risk and consideration of alternative solutions to mains replacement, eg joint repair or gas conditioning.

4.64. NGGD state a risk value for services in terms of incidents per annum. However, it is unclear to us how this informs the business plan for service replacement. We require further information to quantify the health and risk of services, the options considered and the outputs associated with this activity.

### Real price effects and ongoing efficiency

4.65. We have calculated that the net effect of NGGD's assumptions for RPEs and ongoing efficiency in their plan are +0.4 per cent per annum for opex, +1.2 per cent per annum for capex and +1.3 per cent per annum for repex.

*RPEs*

4.66. NGGD has used various sources to come to their conclusion on RPE assumptions including consultant reports and their own forecasts for energy prices. NGGD has included contractor materials in the contractor labour RPE. We need to review this as our intention, as set out in the guidance document, was to exclude materials costs from the contractor RPEs.

4.67. The RPE assumptions that NGGD submitted are the highest of all GDNs. In particular the RPEs requested for materials and transport costs are roughly four times higher than the submissions from the other GDNs. We have not seen clear justification from NGGD to indicate that they are facing cost pressures greater than the other GDNs.

*Ongoing efficiency*

4.68. NGGD acknowledge that they need to make significant efficiencies in RIIO in order to put them on the frontier. They will use the next four years to achieve this goal and then apply an ongoing efficiency assumption from 2014-15, ie from year two of RIIO-GD1. For the ongoing efficiency assumption NGGD has referenced the Competition Commission ruling for Bristol Water.[12] From 2014-15 they have set an ongoing efficiency challenge of 0.25 per cent per annum on work delivery, 0.8 per cent per annum on business support and 0.4 per cent per annum on asset management.

4.69. These assumptions are lower than the assumptions that the other GDNs have included in their plans. Ongoing efficiencies should account for the productivity savings that the industry can make as a whole, and therefore be in addition to the catch up efficiencies that NGGD has identified.

## Assessment of efficient financial costs

### Summary

4.70. NGGD submitted a comprehensive analysis of their proposed financing arrangements in their business plan. However, we do not consider that their

[12] Appendix K: http://www.competition-commission.org.uk/assets/bispartners/competitioncommission/docs/pdf/non-inquiry/rep_pub/reports/2010/fulltext/558_appendices.pdf

proposals are least cost and in the consumers' interest, notably in respect of the cost of equity and the notional gearing assumptions. We set out our reasons below.

**Technical accounting**

*RAV, Tax, Pensions and totex capitalisation*

4.71. In general NGGD complied with our policies for all technical accounting issues. There were no material data issues, although there are issues in relation to the pension regulatory fraction and allocation of tax pools that we need to resolve with NGGD along with the NGET/NGGT for the transmission business.

**Corporate finance**

*Key content*

4.72. NGGD provided a relatively comprehensive submission, including supporting papers produced by Oxera covering the cost of equity, the impact of duration on risk, and the impact of cost of debt indexation. NGGD sought to justify its cost of equity submission with additional analysis using the dividend growth model, investors' comments and a risk-based analysis of how the allowed return in RIIO-GD1 compared to GDPCR1. NGGD also provided useful risk analysis including Return on Regulatory Equity (RoRE) analysis, and tested credit metrics against a number of different scenarios, with some limited consumer impact analysis. The main omission is a lack of input from other non-investor stakeholders.

*Reflects our policies*

4.73. The key policies are cost of debt indexation, full capitalisation of repex, and our introduction of front-loaded depreciation profile for post-2002 assets. NGGD accepted these policies and proposed transition on repex capitalisation for three of its four GDNs.

*Efficiency of costs*

4.74. As NGGD has accepted our policies in the main, the key areas of assessment are whether the proposed cost of equity is efficient and whether the transitional arrangements and financing structure are appropriate.

4.75. **Cost of equity:** NGGD proposes a cost of equity figure of 7.2 per cent (real post-tax), which is at the top of the range (6.0–7.2 per cent) we set out in our March strategy decision. The proposed cost of equity is primarily based on evidence NGGD has previously submitted to us and reports commissioned from Oxera. NGGD's risk assessment shows that with its proposed uncertainty mechanisms they consider 7.2 per cent an efficient cost of equity. We did not find the reasons for the proposed cost of equity to be compelling.

4.76. **Financeability assessment and transitional arrangements:** Any assessment of the overall transitional arrangements is the result of a number of choices that interact with each other including the cost of equity and notional gearing, in the context of the level of investment. Although NGGD provided detailed financeability assessment, in which the impact of various combinations of notional gearing and transitional arrangements on credit and equity metrics are assessed, we do not consider that its proposed corporate finance costs are efficient. In particular, we note that NGGD's assumed notional gearing level of 53 per cent for all four GDNs is significantly lower than recent regulatory precedents. Furthermore, we note (small) differences between the credit ratios in NGGD's financial models and the ones in its business plan narrative. NGGD does provide compelling arguments to support its assumption of five per cent notional dividends.

## Assessment of uncertainty and risk

### Management of risk and uncertainty over RIIO-GD1

4.77. NGGD has provided a thorough analysis of the risks and uncertainties that they consider they will face in RIIO-GD1. To determine who is best placed to manage the identified risks they have categorised them based on five key criteria: is the risk controllable; can the cost be forecast; what is the impact on the cost of equity; does it represent cash flow risk; and what is the impact on outputs. They provided a good overview of their risk modelling approach which led them to identify areas where they thought an uncertainty mechanism was required.

4.78. Generally NGGD's risk assessment is of good quality although we have some concerns around the assumptions that have been used in the modelling work. Primarily, the cost assumptions that feed through to the calculation of materiality as these calculations impact on NGGD's decision on the requirement of a mechanism to manage uncertain costs.

4.79. They have identified the roll-out of domestic smart meters as an area of uncertainty. They have included within their plan a 5 per cent increase in their emergency workload and have stated they will mitigate additional risk through management actions. The assumptions of increased workload, due to the roll-out of smart meters, vary between GDNs and so further work is required by industry and us to define a suitable approach to deal with potential costs on the GDNs.

4.80. NGGD has highlighted the concerns raised by stakeholders on volatility in network charges. They propose some options to mitigate volatility. While the proposals outlined in their business plan have merit, they fail to address the impact that uncertainty mechanisms, including their proposal for the treatment of street works costs, has on volatility.

### Proposed uncertainty mechanisms

4.81. In our March strategy decision we proposed an uncertainty mechanism to allow GDNs to recover additional revenue during RIIO-GD1 for costs incurred for

conducting street works activity. The street works regime creates uncertainties in the costs that the GDNs will incur for complying with their statutory duty to maintain and replace their assets. The reason for an uncertainty mechanism is to reduce customers' exposure to potentially material forecasting error were an ex ante allowance given.

4.82. NGGD consider that our proposal leaves them bearing too much risk and have therefore proposed an alternative. Their proposal would require allocating costs based on the likelihood of them occurring and treating each area of cost differently. 'Established costs', ie those where six months of cost data is available, would be recovered through an ex ante allowance and subject to an annual assessment. Allowances would be altered based on actual costs incurred. For costs related to 'extended street works' that are establish during RIIO-GD1, there would be an annual opportunity to add the cost impact into allowed revenue. The allowance would be set based on previous experience of the costs of running such schemes. For new costs, relating to new legislation, there would be the opportunity for an annual income adjusting event, subject to costs passing a materiality threshold.

4.83. We understand NGGD's concerns on the potential materiality of the costs associated with street works. We need to work closely with them, and the other GDNs, to fully understand their cost projections. Currently there is insufficient detail provided by NGGD, on what is driving their cost assumptions, to allow us to assess whether our proposed mechanism would leave NGGD in any financial difficulty. NGGD has not demonstrated that they have thought about the potential drawbacks of this mechanism and therefore the impact it will have on customers. They think that this mechanism will have less impact on charging volatility than the mechanism proposed by us, ie they think an annual adjustment creates less volatility than a potentially larger but less regular adjustment. We would disagree. Stakeholders have told us that it is the predictability of charges that matters most, not the magnitude of the charge changes themselves. Our initial view is that the proposed mechanism puts too much risk on the customer, is complex in its design, and reduces the incentive on NGGD to manage this risk. We intend to further consider NGGD's concerns and proposals in more detail with the wider industry.

4.84. NGGD has also requested an additional uncertainty mechanism for maintenance/replacement of assets within medium-rise multiple occupancy buildings (MOBs). During RIIO-GD1, NGGD plan on undertaking a number of surveys on medium-rise MOBs, for which they have requested an ex ante allowance. As the results of those surveys are not yet known, the volume of work that may be required is also not known. NGGD has proposed a volume driver which will increase their allowed revenue based on a unit cost that will be set at the start of RIIO-GD1. We consider that the design of this mechanism has merits, but further work will be required to understand if there is a needs case for medium-rise MOBs surveys, and resulting work, to be undertaken. We will also need to further understand the unit cost assumptions and assess their suitability, if we were to agree to such a mechanism.

# 5. Assessment of NGN's business plan

**Chapter Summary**

This chapter provides our assessment of the Northern Gas Networks (NGN) business plan.

## Overall assessment

5.1. Figure 5.1 sets out our overall assessment of NGN's plan against each of the five broad categories below. We note the following key points:

5.2. NGN submitted a detailed business plan which fulfilled our key content criteria, and was consistent with the policy decisions we set out in our March strategy decision. The plan was also supported by a clear stakeholder engagement process. Overall, we consider that their process for constructing their plan was robust.

5.3. We consider NGN's approach to non-asset related outputs is reasonable. However, we intend to hold further discussions with NGN and the wider industry in relation to fuel poor networks, and carbon monoxide (CO) outputs. The primary areas of further work will be in relation to safety and reliability outputs, notably in relation to NGNs approach to repex, where despite the change to the Health and Safety Executive's (HSE's) policy on repex, their proposed workload is on a par with historic levels, as well as other material aspects of their asset plan in relation to steel mains, and reinforcement costs. In common with other GDNs, we also need to consider in more detail NGN's cost benefit analysis (CBA) supporting their asset investment plans with the objective of developing a common industry approach.

5.4. Our comparative efficiency analysis shows that NGN is one of the most efficient GDNs. However, we have concerns in relation to the projected cost increases over the period relative to other companies' plans. The cost increase is in part explained by NGN's high real price effects (RPE) assumptions (net of ongoing efficiency), as well as material increases in condition based expenditure. These issues will constitute key areas for further work.

5.5. NGN has proposed the most efficient financial package of the set of GDNs although we did not consider that their proposed cost of equity was well-justified in their plan.

5.6. NGN has submitted a plan consistent with our March strategy decision. There are industry level issues that we will need to consider with NGN in relation to smart meters.

5.7. Overall, we decided not to retain NGN within the fast-track process given the materiality of the issues that we would need to resolve, notably in relation to their asset investment strategy (eg in relation to repex volumes, including their approach

to setting the tier 2 threshold, steel mains replacement, reinforcement). We also have concerns about NGN's cost efficiency, notably in relation to their proposed RPEs net of ongoing productivity assumptions, and the overall proposed increase in total costs relative to GDPRC1 of the order of 20 per cent.

**Figure 5.1. Assessment of NGN's Business Plan**

| Category | Sub-category | NGN |
|---|---|---|
| Process | | |
| Outputs | | |
| | *Strategy* | |
| Cost efficiency | *Efficient delivery* | |
| | *Financeability* | |
| Financial arrangements | *Technical accounting* | |
| Uncertainty | | |

## Assessment of process

### Key content, structure and proportionality, data template and financial model

5.8. NGN submitted a concise and accessible 'business plan summary'. The style of the document was written as a business plan (ie for use within the company) as opposed to a regulatory submission. The submission included a more detailed business plan submission, with supporting appendices and third party reports. NGN's business plan templates contained no material data inconsistencies and were consistent with information within the business plan narrative.

5.9. In common with other GDNs, a notable omission was the absence of CBA analysis supporting the proposed asset investment plans. We have requested further information in relation to their CBA, and NGN has responded with their documented process. We are seeking to develop a common approach across the GDNs to the CBA, and this constitutes a key area where we anticipate further discussion and re-submissions. We also intend to discuss with NGN and the other GDNs the implications for uncertain demand and uncertain asset data on asset investment plans in the RIIO-GD1 period. In this area, NGN's business plan is limited to a discussion of the industry commissioned Gas Future Scenarios report.[13]

### Effective engagement and reflection of stakeholders' views

5.10. NGN consulted around 1,700 stakeholders in the development of their business plan. They employed a range of techniques targeting different stakeholder

[13] See NGN Business Plan, pp. 30-31.

groups, taking into account their different levels of knowledge of gas distribution network issues.

5.11. In the first phase of their approach (level 1) NGN conducted customer surveys to gain feedback on current activities and proposals for change. These suggestions were accompanied with approximate costs to assess the willingness to pay for service improvements. The second and third levels of engagement focussed on the views of local authorities, highways authorities, shippers and MPs.

5.12. NGN stated that stakeholder feedback on the plan reduced the overall expenditure by around £250m over the RIIO-GD1 period.

5.13. NGN has clearly set out where stakeholder feedback during level 1 (ie from customers) has been acted upon and also where suggestions were not adopted. It is less clear to us how feedback received during levels 2 and 3 has been factored into their plan. Although overall spending was reduced following stakeholder feedback, this appears to be more reflective of a general stakeholder view that costs should be kept to a minimum, rather than the identification (and suppression) of specific outputs/expenditures. It is therefore not clear to us whether stakeholders fully supported the choices made to reduce the spending profile.

## Assessment of outputs

*Customer satisfaction*

5.14. NGN's proposals are consistent with the outputs set out in our March strategy decision. In addition to these, NGN is aiming to reduce overall complaint volumes and have proposed an additional output measure of the number of complaints they receive.

*Social outputs – reducing risk associated with carbon monoxide (CO) poisoning*

5.15. NGN has considered stakeholder feedback in identifying what actions they should take to reduce risks associated with CO. As a result they proposed to undertake a customer awareness programme to enhance understanding of risks and how these can be addressed.

5.16. NGN also proposes to conduct atmospheric testing on all gas emergency calls (approx. 120,000 calls per year). This will involve adapting the Gascoseekers carried by FCOs to include the necessary functionality. NGN propose to report annually on all of their awareness activities, including the results of atmospheric testing.

5.17. NGN has put forward interesting and well thought through proposals for tackling CO related risks. However, we believe that further work needs be done in this area at an industry level to develop greater consistency across the GDNs, in particular, with regard to measuring the impact of activities intended to increase awareness.

5.18. One respondent supported NGN's proposal to extend the functionality of existing gas leak detectors to include CO detection capability. The same respondent also noted the support NGN received from stakeholders for increasing awareness activities, in apparent contrast to the feedback presented by other GDNs.

*Social outputs – fuel poor network extensions*

5.19. NGN estimates there are around 55,000 fuel poor households in their distribution area and they are proposing to connect 6,500 customers in the RIIO-GD1 period.

5.20. We note that NGN estimate that the cost of these connections will be £14.2 million, a significantly higher cost per connection than that anticipated by NGGD and WWU. In common with other GDNs, it is not clear to us how NGN has identified the overall number of fuel poor households off-network and eligible for the scheme, the costs of connecting them, and therefore the basis for the proposed number of connections and associated costs. We intend to discuss our concerns with the industry as part of the next stage of our review.

*Connections policy*

5.21. NGN has developed and implemented minimum performance standards to apply to gas entry connections and will report on these annually. NGN has also signalled their willingness to work with others in the industry to identify the relevant standards to apply on a national basis. Further work is required at an industry level to develop and implement these standards.

*Environmental outputs (excluding shrinkage)*

5.22. The NGN plan states that they intend to facilitate biomethane connections, including specific projects within their innovation strategy. They aim to reduce their BCF by 5% over the period, predominantly through research into improved technologies for their vehicles, at a cost of £0.7million.

5.23. NGN do not see material scope to improve on current levels of aggregate use and spoil to landfill, and also highlight uncertainty in relation to relevant legislation and the economic situation.

*Environmental outputs (shrinkage and environmental emissions incentive)*

5.24. NGN's plan follows the policy position set out in our March strategy decision including investigating the use of smart metering data to validate the leakage model.

*Innovation strategy*

5.25. NGN has identified the key challenges they believe they will face and the work areas they intend to focus on. NGN has set out their high-level governance process

for assessing and progressing innovation within the business. They have also provided a detailed annex with a list of potential projects and deliverables over the course of RIIO-GD1. NGN provides evidence that stakeholders have been consulted but does not clearly demonstrate how these stakeholders influenced the overall innovation strategy.

5.26. NGN have demonstrated some consideration of innovation in their wider business plan. They state their total cost of ownership model (TCO) for their business is an innovative business solution to prioritise network expenditure and manage risk. This model is referenced throughout the business plan and innovation strategy.

5.27. We will provide specific feedback on NGN's innovation strategy for them to consider in their re-submission of their innovation.

*Reliability*

5.28. Reliability outputs have been clearly set out in NGN's business plan and include specific values for primary outputs and secondary deliverables. Output categories are aligned with the framework set out in our March strategy decision. Values for the secondary deliverables include a historical trace which helps to validate forecast performance. We will carry out further work to assess the robustness of the values presented.

5.29. NGN state which reliability related activities they commit to improving, and those which they propose to hold at current levels.

5.30. Health, criticality and risk indices are provided but further detail on how they have been developed needs to be established for individual assets to ensure measurements are consistent across asset groups.

*Safety*

5.31. Safety outputs have been clearly set out in NGN's business plan and include specific values for primary outputs and secondary deliverables. Output categories are aligned with the framework set out in our March strategy decision. Values for the secondary deliverables include a historical trace which helps to validate forecast performance. We will carry out further work to assess the level of robustness of the values presented. An additional operational safety category has been included by NGN.

5.32. NGN state which safety related activities they commit to improving, and those which they propose to hold at current levels.

## Assessment of efficient expenditure

### Total expenditure

5.33. The average controllable total expenditure for the RIIO-GD1 period is £231.2m for NGN. This represents an increase of 20.2 per cent in costs compared with the average annual costs of the first three years of GDPCR1, which is highest of all GDNs.

5.34. NGN's mains repex workload is similar to their historical level and does not appear to have adequately exploited opportunities to reduce mains workload under the three-tier approach for iron mains. They are also proposing the highest increase in capex which we do not consider is well-justified and is not always linked to outputs. However, they have demonstrated the linkages between their repex and capex programmes and their opex activities.

### Operational expenditure

5.35. Table 5.1 sets out the proposed controllable operational expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 5.1. NGN's forecasts of controllable opex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| NGN | 92.5 | 39% | 27% |

[1] Excluding RPEs

5.36. Generally, we can identify the costs in the business plan but we do not consider they are always fully-justified (eg there are insufficient links to the capex programme, interruption contracts, apprentices & training). In common with other GDNs, there are significant uncertainties in relation to smart metering and street works costs. There are also inconsistencies in approaches and assumptions across companies (eg gasholder decommissioning and smart metering) which we need to resolve with the industry.

5.37. NGN demonstrates the link between their repex programme and the removal of metallic pipeline and the effect on its operational activities such as reductions in external public reported escapes (PREs), repairs and leakage. The assumptions underlying the links between repex and associated operational activities are not always clear to us. They are also putting forward smaller reductions in escapes, repairs and leakage when compared to other GDNs.

5.38. NGN proposes a 31 per cent average annual increase in capex compared with the first three years of GDPCR1. It is unclear to us the link between the proposed capex and opex, eg maintenance costs. We also need to understand their forecasts

for expenditure on interruptible contracts, and how this relates to their proposed load-related capex.

5.39. NGN set out the highest increase in business support costs compared with the latest reported actual of all GDNs. We do not understand the proposed increase. We would not have expected an increase without a justifiable change in the way they operate. Training and apprentices accounts for the largest increase, but we do not have the required level of evidence to support this.

**Table 5.2. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**

| | Direct Opex | | | | | | Indirect Opex |
|---|---|---|---|---|---|---|---|
| | Total Direct Opex | Work Management | Emergency | Repair | Maintenance | Other Direct Activities (excl. Xoserve)* | Business Support (excl. R&D) |
| NGN | 19.1% | (8.4%) | 22.4% | 10.1% | 4.1% | 327.6% | 37.7% |

* NGN report the cost of the gas holders removal programme under ODA.

**Capital expenditure**

5.40. At a high level, NGN provided a well structured business plan, which clearly sets out strategic developments, primary outputs and secondary deliverables.

5.41. Table 5.3 sets out the proposed capital expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 5.3. NGN's forecasts of capex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| NGN | 46.8 | 21.0% | 32.1% |

[1]Excluding RPEs

5.42. Capex accounts for 21 per cent of NGN's submitted business plan costs with an average annual cost of £46.8m (excluding RPEs). This represents a 32 per cent increase in costs compared with the average annual costs for the first three years of GDPCR1, which is the highest increase in capex expenditure across all four gas network companies.

**Table 5.4. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**[1]

| | Total Capex | LTS & storage | Reinforcement | Governor (renewal) | Connections | Other Capex |
|---|---|---|---|---|---|---|
| NGN | 32.1% | 220.9% | 16.5% | (20.9%) | (5.7%) | 8.7% |

[1] Cost movements are based on best available data from RRP returns and BPDTs. Note there are some issues of comparability of data between the two price control periods. In the case of governors further

investigation will be required in order to fully understand cost movements between the two reporting periods.

5.43. NGN plan to spend £102m on LTS and storage over RIIO-GD1, which represents 5.7 per cent of total expenditure and an increase of 221 per cent compared to GDPCR1 levels. There is only limited rationale or detailed evidence to support the proposed remedial, replacement and updating work on LTS assets.

5.44. We do not consider NGN has considered alternative options in some expenditure areas. As an example, we would have expected NGN to have considered an assessment of component replacement as an alternative to governor replacement in order to improve asset health indices.

5.45. There is no explanation of how replacement costs for district governors were determined.

5.46. NGN propose to spend £173m over the RIIO-GD1 period on other capex items which represents 9.7 per cent of their total capex expenditure.[14] NGN has classified £70m of other capex as 'other' items. This 'other' capex is approximately four times higher than the proportion reported for any of the other networks. NGN do not provide robust justification for expenditure within this category and investment is not linked to outputs.

5.47. NGN's reinforcement expenditure increases by 16 per cent relative to the current average for GDPCR1. Our initial analysis of unit costs suggests that NGN are cost effective at delivering mains reinforcement work. However, we consider the business plan provides insufficient detail for the proposed reinforcement expenditure and fails to demonstrate the need for the volume proposed. There is no explanation for the increase since GDPCR1 and no indication of how reinforcement forecasts were derived. We have particular concerns about the proposed expenditure given the forecast 3 per cent reduction in peak day demand.

**Replacement expenditure**

5.48. Table 5.5 sets out the proposed replacement expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 5.5. NGN's forecasts of repex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| NGN | 91.9 | 41.2% | 9.3% |

[1]Excluding RPEs.

[14] Other capex includes capex IT including system operations, infrastructure, systems and Xoserve, land and buildings, telecoms and office, security, furniture and fittings, tools and equipment, plant and equipment, vehicles and any 'other' capex items which are not captured by the categories listed.

5.49. In general, the information in the business plan is concise, but lacks the level of detail required to fully support their proposed repex investment programme.

5.50. NGN's proposed workload is close to historical levels, suggesting that NGN may not have fully exploited opportunities offered under the new three-tier iron mains policy. However, they are making use of the increased flexibility to select 80 per cent of mains replacement volumes in tier 1. They have undertaken detailed analysis to target specific geographical areas of the network to maximise benefits of replacement activity in terms of reductions in emergency and repair volumes and leakage.

5.51. We will do further work to confirm that concentration of repex in Yorkshire provides an optimal solution, especially in view of the elevated costs of contract labour in that part of the network. Also, the leakage opex analysis presented in the business plan requires further examination to determine how robust it is at formulating a replacement strategy. NGN show a good understanding of the elements of an optimised asset plan but there is little evidence of its application in practice.[15]

5.52. NGN justify tier 2 and 3 non-mandatory mains workload on the basis of delivering efficient overall packages of work in conjunction with other projects and to deliver significant improvement in the overall health of its assets. This alone does not provide sufficient justification and a greater degree of economic analysis by way of CBA is required to ensure non-mandatory work delivers good value for money. Analysis of tier 2 and 3 mains will be required to determine whether alternatives such as proactive joint repair or gas conditioning could provide optimal solutions.

5.53. A significant increase in volume of non-mandatory steel mains replacement is proposed due to increasing levels of corrosion failures, however this is not adequately quantified and the example in the business plan showing a visual interpretation of leakage concentration is insufficient. The business plan states that the overall benefits outweigh the cost of carrying out the replacement work, but again, a robust analysis to support the expenditure is required by way of a CBA together with supporting evidence on the condition of these assets.

5.54. NGN propose similar service workload levels as currently completed, with a conventional approach of replacing services in conjunction with the iron mains programme. Further information is needed to quantify the health and risk of services, and the costs of benefits of the proposed workloads. NGN should also set out the options considered and the outputs associated with this activity.

[15] Described under "total cost of ownership" heading in their business plan.

### Real price effects and ongoing efficiency

5.55. We have calculated that the net effect of NGN's assumptions for RPEs and ongoing efficiency in their plan are +0.1 per cent per annum for opex, +0.8 per cent per annum for capex and +1.2 per cent per annum for repex.

*RPEs*

5.56. NGN has commissioned a report by consultants EC Harris. The methodology used is based on the long term correlation between relevant indices and the Retail Price Index. They have not considered whether this method is appropriate if historically there has been weak correlation.

5.57. NGN's RPE assumptions are amongst the highest. This is driven predominantly by a higher than average direct and contract labour RPE assumption within their plan.

*Ongoing efficiency*

5.58. NGN's submission includes analysis from consultants First Economics which estimates an ongoing efficiency assumption of 1 per cent per annum for opex, 0.6 per cent per annum for capex and 0.5 per cent per annum for repex.

5.59. NGN state that the benefits of comparative competition have been fully realised, they have achieved an 18 per cent real reduction in opex since NG sold four distribution companies in 2005. They state that the benefits estimated in 2005 were for a 15 per cent opex saving over 15 years. Therefore NGN consider that they have already surpassed this requirement.

## Assessment of efficient financial costs

### Summary

5.60. NGN's business plan included a detailed financial proposals section. NGN's proposals are consistent with the financial policies set out in our March strategy decision, and we consider that they have proposed the most efficient financial package of all the GDNs. However, in the absence of agreement on other key aspects of the plan, most notably cost efficiency, it is not possible to determine whether the package is efficient. We explain our reasons below.

## Technical accounting

*RAV, Tax, Pensions and totex capitalisation*

5.61. NGN complied with our policies across all technical accounting areas with very few data issues. We do not intend to subject these areas to any further detailed scrutiny although there are a few small issues to resolve.

## Corporate finance

*Key content*

5.62. NGN provided reasonably comprehensive material, including consultancy papers produced by Oxera covering the cost of equity. NGN further supports its cost of equity assumption by its own analysis of risks it identified as resulting from our policies for RIIO-GD1 (eg cost of debt indexation and full capitalisation of repex). A notable strength of the NGN submission is that the business plan is first developed based on economic and financial principles, followed by consideration of various financeability measures. After demonstrating that its basic plan is not sufficient to ensure financeability, NGN shows that, with transition on repex, its plan passes financeability tests based on a range of credit metrics. The main omission is a lack of reflection of input from stakeholders.

*Reflects our policies*

5.63. The key policies are cost of debt indexation, full capitalisation of repex, and our introduction of a front-loaded depreciation profile for post-2002 assets. NGN accepted these policies albeit with reservations on the cost of debt index.

*Efficiency of costs*

5.64. As NGN has accepted our policies in the main, the key areas of assessment are whether the proposed cost of equity is efficient and whether the transitional arrangements and financing structure are appropriate.

5.65. **Cost of equity:** NGN proposes a cost of equity figure of 7.2 per cent (real post-tax), which is at the top of the range (6.0–7.2 per cent) we set out in the March strategy decision. The figure is largely based on material previously submitted to us and produced by Oxera. NGN proposes an assumption of 7.2 per cent as a level consistent with both the top end of Oxera's range and our March strategy decision range. We do not consider the arguments for a value at the top of our range to be compelling.

5.66. **Financeability assessment and transitional arrangements:** Any assessment of the overall transitional arrangements is the result of a number of choices that interact with each other including the cost of equity and notional gearing, in the context of the level of investment. NGN considers a range of options

that would allow it to achieve financeability and settles on transition applied to the totex capitalisation rate. While transition on totex capitalisation is consistent with our policy, NGN's approach is to adjust the rate in each year so as to achieve financeability. This could result in unintended consequences if actual investment differs from allowed totex in any given year. Our preference would be for a fixed capitalisation rate to be applied once transition has been taken into account. NGN provides compelling arguments to support its assumption of five per cent notional dividends.

## Assessment of uncertainty and risk

### Management of risk and uncertainty over RIIO- GD1

5.67. NGN has provided an overview of their internal risk assessment process within an appendix to their business plan. Although it is a high level view it clearly sets out the risks that they think they will face and the management actions that they have, and will, put in place to minimise the likelihood of risks materialising. They have quantified the consequence of risks materialising but it is unclear how these figures were derived.

5.68. NGN is fully aware of concerns around charging volatility and are keen to consult further on the issue. They identify the following areas as being key to creating volatility: the timing and implementation date of Supply Offtake Quantity (SOQ) changes in to the charging model, the use of forecast rather than actual data for revenue adjustments and, how they collaborate with the National Transmission System (NTS) in price setting. They are not supportive of a cap and collar or smoothing of allowed revenues. We will engage further with NGN to understand their concerns with this option.

### Proposed uncertainty mechanisms

5.69. NGN has not proposed any additional or modified uncertainty mechanisms to those proposed by us in the March strategy decision. However, they have identified the smart meter roll-out as a key area of uncertainty that they think requires further discussion. They do not currently propose an uncertainty mechanism rather they prefer the approach of including an expectation of costs in their baseline allowance. We will need to work closely with industry to further understand the potential costs that GDNs may face, and the best way to address this issue (eg either through an ex ante allowance or an uncertainty mechanism).

# 6. Assessment of SGN's business plan

**Chapter Summary**

This chapter provides our assessment of the Scotia Gas Networks (SGN) business plans.

## Overall assessment

6.1. Figure 6.1 sets out our overall assessment of SGN's plan against each of the five broad categories below. We note the following key points:

6.2. SGN provided a concise executive summary setting out their proposals. The main business plan also provides a clear guide to the structure of the plan, and sign-posting to the related appendices and independent reports. We also consider that SGN has undertaken a proportionate stakeholder engagement process.

6.3. We have concerns with SGN's investment plans. SGN do not appear to have moved significantly away from the current repex policy, and they are proposing similar levels of workload to those undertaken in GDPCR1. We note that they have not set out a tier 2 threshold (below which expenditure should be justified in CBA terms). They are also proposing an increase in their integrity based capex (eg compared with NGGD) which requires further understanding and justification. They also have the highest costs in relation to low pressure gas holders. It is also not clear to us what assumptions underpin the interaction between their repex and capex programmes, and operating costs.

6.4. Our comparative efficiency analysis also shows SGN to be relatively high cost for a number of activities, particularly for Southern GDN. However, we recognise that further work is needed in this area to consider the appropriate cost drivers and company specific factors.

6.5. SGN's financial proposals depart from our policies in substantive areas, and more so than any other GDN. We do not consider that their proposed departures are well-justified, eg in relation to asset life (where they propose a 38 year asset life compared to our March decision of 45 years); their proposed 60 basis points (bps) uplift to the cost of debt index; and cost of equity of 7.5 per cent.

6.6. We consider there is insufficient detail in SGN's plan on how they have identified and assessed the impact of risks or how they will manage risks over RIIO-GD1. They have proposed a number of additional uncertainty mechanisms, including in relation to Xoserve, Scottish Independent Undertakings (SIUs), smart-meter roll-out, changes in legislation and National Transmission System (NTS). Of these, we consider there is potential merit for a mechanism in relation to SIUs, as well as smart meters (a common industry issue). In all cases, we will need SGN to provide greater justification for their proposed mechanisms during the next stage of our

assessment process. By contrast, we note that SGN has set out the most developed proposals in relation to charging volatility, which we intend to take forward as part of our wider consultation across all network price controls.

6.7. Overall, we decided not to retain SGN within the fast-track process given the number of issues the material issues we need to resolve, notably in relation to their asset investment strategy, but also in relation to financing issues, and uncertainty mechanisms.

**Figure 6.1. Assessment of SGN's Business Plan**

| Category | Sub-category | SGN |
|---|---|---|
| Process | | |
| Outputs | | |
| Cost efficiency | *Strategy*<br>*Efficient delivery* | |
| Financial arrangements | *Financeability*<br>*Technical accounting* | |
| Uncertainty | | |

## Assessment of process

### Key content, structure, and completion of data template and financial model

6.8. SGN provided a concise executive summary setting out its proposals. The main business plan also provides a clear guide to the structure of the plan, and sign-posting to the related appendices and independent reports. SGN submitted separate plans for Scotland and Southern. Given the commonality in the plans, the submission of a single plan (with separate appendices for the separate businesses) might have avoided duplication. SGN submitted all of their business plan templates. There were very few data inconsistencies, although there were some inconsistencies between the data in the financial model and the business plan narrative. Some elements of the capex data tables were incomplete, eg asset health data.

6.9. The separate plans are concise, and cover all of the key areas. However, in common with other submissions, there is insufficient detail in some areas to assess the quality of the proposals. To take two examples, there is insufficient information in relation to their proposed investment in non-mandatory iron mains, as well as their proposed approach to meeting the required investment to serve the Scottish Independent Undertakings (SIUs). We are in the process of following up these issues (as well as other asset investment expenditure areas) with SGN, and SGN has

submitted extensive further documentation to us for our assessment.[16] There is also a limited discussion of the potential relationship between the uncertainty facing future network use, and how this has informed their asset management plans. This is an issue that we intend to discuss with at the industry level.

**Effective engagement and reflection of stakeholders' views**

6.10. SGN undertook a phased approach to engagement and gave consideration to people's preferences for how to be engaged. They undertook initial research to establish stakeholder priorities and then held two 'stakeholder live' events that explored views on a range of topics. These activities were supplemented with customer focus groups that tested proposals in more detail and considered willingness to pay. SGN used existing forms of engagement with specific groups of stakeholders to discuss their emerging proposals. They concluded the stakeholder engagement process by consulting on their draft business plan via their website.

6.11. SGN has evidently used stakeholder engagement to inform their business plan, however it is not always clear exactly how this process fed into the development of specific policies. For example, phase 3 of SGN's approach involved focused engagement with a range of different stakeholders. However little detail is provided on the nature or outcome of this engagement process. Further information could have been provided to describe what issues were discussed and by whom, and to what degree the views of stakeholders led to changes in SGN's strategic priorities.

## Assessment of outputs

*Customer satisfaction*

6.12. SGN's proposed outputs are consistent with our March strategy decision.

6.13. We note that SGN are seeking additional expenditure allowances of £1.2m per annum in London and £100k per annum in Scotland. SGN has provided research indicating the differing expectations for service levels that are expected by customers in London. We do not consider the research justifies the additional cost to improve performance against a financially driven incentive. SGN has not provided research to justify an additional allowance for improving service levels in Scotland.

*Social outputs – reducing risk associated with carbon monoxide (CO) poisoning*

6.14. SGN propose to focus their activities on increasing awareness amongst customers on the risks associated with CO. Along with a range of activities to increase awareness, SGN will train and use First Call Operatives to provide CO

[16] For example, SGN conclude that "*[the CBA analysis] indicates that 31km of Tier 2 pipes are economic to include within zonal projects*" but there is no supporting analysis to this conclusion [see Appendix I2]. For discussion of SIUs, see Appendix R.

information and discuss the potential risks with customers whilst attending a reported gas escape. SGN proposes to capture the impact of these activities through a customer awareness survey. Under SGN's proposals, performance against this output would be financially incentivised with networks that demonstrate an improvement in customer awareness receiving a reward of up to 0.5 per cent of annual revenues.

6.15. One respondent felt that SGN had been more innovative than the other GDNs in addressing risks associated with CO poisoning. The same respondent however was disappointed that SGN did not believe that issuing CO alarms sufficiently helps to raise awareness. This respondent felt alarms would be of benefit for sections of the community unlikely to be influenced by general awareness campaigns.

6.16. We would like to consider SGN's proposals for developing a customer awareness survey and believe there may be merit in developing greater consistency across the GDNs in how to measure the impact of their activities on customer awareness. We will also discuss with the industry potential incentive mechanisms, including the potential for non-financial incentives.

*Social outputs – fuel poor network extensions*

6.17. SGN's proposals for connecting fuel poor customers to their distribution network are consistent with our March strategy decision. SGN estimates there will be around 2.5 million fuel poor households in their combined supply areas by 2021 and they are proposing to connect 20,000 customers in the RIIO-GD1 period.

6.18. We note that SGN estimate that the cost of these connections will be £41.3m, a significantly higher cost per connection than that anticipated by NGGD and WWU. In common with other GDNs, we intend to discuss how SGN has identified the potential off-network households eligible for the scheme, and the costs of connection, in determining their proposed output level and associated costs.

*Connections policy*

6.19. SGN has expressed their support for the development of output measures on the provision of timely connections and standards of service for quotation, planning and completion. In the absence of more detailed information to help determine minimum timescales for gas entry connections, SGN have suggested using existing standards for demand connections. Further work is required from across the GDN community to develop and implement these standards.

*Environmental outputs (excluding shrinkage)*

6.20. The SGN plan clearly sets out the approach to environmental outputs, including the approach to facilitating biomethane connections. They provide cost estimates for 68 forecast connections, which will be recovered from the facility operator based on the current connection charging arrangements. Commitments to reduce business carbon footprint are based on improvements from renewable energy

installations in their buildings, and a 5 per cent per annum reduction in vehicle emissions. Associated costs of £1.5million are not adequately detailed.

6.21. SGN has provided forecasts on land remediation but they have identified the different categories as required in our March strategy decision. SGN has provided estimated quantities of aggregate extraction and spoil to landfill for the first year of the price control but state that they cannot provide forecasts beyond the first year. We will discuss with SGN the obstacles to providing such forecasts.

*Environmental outputs (shrinkage and environmental emissions incentive)*

6.22. SGN's plan follows our policy position for shrinkage and leakage as set out in our March strategy decision. We also note that they include over £4m investment in pressure management systems on their Southern network and over £1m on their Scottish network. However, no mention was made of plans to investigate how smart metering data might be used to validate the current leakage model.

*Innovation strategy*

6.23. SGN's innovation strategy does not provide adequate detail across most areas including the methods used to consult stakeholders, how stakeholder engagement has influenced their strategy and how innovative projects will be developed and identified. SGN has outlined a list of strategic goals and associated deliverables and made some attempt to prioritise each goal but it is not always clear what the deliverables are and how they would be achieved. We will provide more details on our assessment of SGN's innovation strategy for their consideration in the re-submission of their business plan.

*Reliability*

6.24. Information on reliability outputs is very limited in SGN's business plans and further work is required to verify whether they have addressed the requirements as set out in our March strategy decision.

6.25. SGN has included a general target to improve asset health to "H2" standard but they have not been able to provide detailed health, criticality and risk information at the time of submission. SGN has since informed us that survey information is being input and assessed, and the indices will be available in Spring 2012.

*Safety*

SGN do not present their safety outputs concisely or clearly. Specific values for primary outputs can be found in separate parts of the business plan although relevant values not found in the business plans were provided in the business plan data templates. There is only limited discussion of safety outputs in the business plans. There is general concern in respect of consistency between the trends forecast for secondary deliverables. Other elements of the outputs framework appear not to

be have been included by SGN. Significant further work is required in this area. There needs to be greater evidence in terms of risk associated with services.

## Assessment of efficient expenditure

### Total expenditure

6.26. The average controllable total expenditure for the RIIO-GD1 period is £199.3m for Scotland and £401m for Southern. This represents an increase in costs of 9.9 per cent and 8.6 per cent respectively compared with the average annual costs of the first three years of GDPCR1.

6.27. SGN do not appear to have moved significantly away from the current repex policy with similar levels of workload. We note that they have not set out a tier 2 threshold (below which expenditure should be justified in CBA terms). They are proposing a significant increase in their integrity based capex (eg compared with NGGD) which requires further understanding and justification. They also have the highest costs for their strategy for low pressure gas holders removal compared with other GDNs.

6.28. It is not clear to us what assumptions they have used for links between their repex and capex programmes with safety and reliability outputs, and opex activities. For example, SGN forecast an increase in emergency and repair workload (1 per cent per annum) on the assumption that their network deterioration rate is higher than their rate of replacement. We would need further evidence to understand the robustness of these assumptions.

### Operational expenditure

6.29. Table 6.1 sets out the proposed controllable operational expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 6.1. SGN's forecasts of controllable opex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| Sc | 79.2 | 39% | 22% |
| So | 140.1 | 34% | 24% |
| **SGN** | **219.3** | **35%** | **24%** |

[1]Excluding RPEs

6.30. Not all the cost movements can be identified in the business plan and are therefore not fully justified (eg links to the capex programme, links with the repex programme and apprentices & training costs). There are uncertainties surrounding large additional areas of costs (eg smart metering and street works) and there is an inconsistency in approach to other areas of expenditure across companies (gasholder decommissioning, smart metering) which we will need to resolve with the industry.

6.31. SGN sets out a 17 per cent increase in average annual capex for Scotland and 22 per cent increase in Southern compared with the first three years of GDPCR1 but the plans do not set out clear linkages in terms of how this affects areas of opex such as maintenance.

6.32. SGN do not adequately demonstrate the impact of their repex programme (ie the removal of between 33 per cent and 38 per cent of metallic mains) on opex workloads such as external public reported escapes, repairs and leakage. They have the lowest reduction in leakage of between 3 per cent and 5 per cent over the price control period and have increases in repairs and emergency volumes.

6.33. Business support costs are showing a significant increase compared with the latest reported actuals the reasons for which are not clearly understood. Training & apprentices accounts for the largest increase, but we do not have the required level of evidence to support this.

**Table 6.2. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**

| | **Direct Opex** | | | | | | **Indirect Opex** |
|---|---|---|---|---|---|---|---|
| | Total Direct Opex | Work Management | Emergency | Repair | Maintenance | Other Direct Activities (excl. Xoserve)[1] | Business Support (excl. R&D) |
| Sc | 25.0% | (3.9%) | 90.8% | (3.7%) | (2.8%) | 173.7% | 9.6% |
| So | 27.5% | (0.0%) | 77.9% | 1.8% | (17.2%) | 342.0% | 10.0% |
| **SGN** | **26.6%** | **(1.5%)** | **81.9%** | **0.4%** | **(12.0%)** | **267.7%** | **9.8%** |

[1]SGN report the cost of the gas holders removal programme under ODA.

**Capital expenditure**

6.34. Table 6.3 sets out the proposed capital expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 6.3 SGN's forecasts of capex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| Sc | 63.4 | 32.9% | 17.4% |
| So | 92.3 | 24.0% | 7.0% |
| **SGN** | **155.7** | **27.0%** | **11.0%** |

[1]Excluding RPEs.

6.35. Capex accounts for 24 per cent of Southern and 33 per cent of Scotland's submitted business plan costs with an average annual cost of £92.3m and £63.4m respectively (excluding RPEs). This represents a 7 per cent and 17 per cent increase for Southern and Scotland compared with the average annual costs for the first three years of GDPCR1.

**Table 6.4. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**[1]

| | Total Capex | LTS & storage | Reinforcement | Governor (renewal) | Connections | Other Capex |
|---|---|---|---|---|---|---|
| Sc | 17.4% | 93.7% | 22.2% | 27.9% | (19.0%) | (34.1%) |
| So | 7.0% | (5.6%) | 54.6% | 25.3% | (21.0%) | (29.5%) |
| **SGN** | **11.0%** | **26.5%** | **41.8%** | **26.1%** | **(20.0%)** | **(31.4%)** |

[1] Cost movements are based on best available data from RRP returns and BPDTs. Note there are some issues of comparability of data between the two price control periods. In the case of governors further investigation will be required in order to fully understand cost movements between the two reporting periods.

6.36. SGN's cost increase in capex is not well detailed in their business plan and we require further evidence to demonstrate the need for the proposed increase in capex including additional asset health and criticality information.

6.37. SGN has forecast the largest proportion of spend on LTS and storage projects compared to other GDNs. The proposed interventions and expenditure on LTS assets, which involve significant remediation, replacement and updates, are supported with very limited rationale or detail and there is no evidence that SGN has used CBA to support LTS and storage investment.

6.38. In the case of six proposed new offtakes from the NTS on the Southern Network at a combined forecast cost of £65m to address 'offtake resilience', there is no indication of a coherent approach to overall resilience nor of consultation with NGGD NTS. There is no reference to consideration of 'offtake resilience' in relation to Scotland network. We require a full detailed justification of the proposed strategic approach to 'offtake resilience', and the interaction with NGGD NTS for both networks.

6.39. SGN has forecast high spend on LTS and storage for Scotland which represents 12.5 per cent of its total expenditure, driven largely by investment in Scotland's SIUs. SGN Scotland has four reinforcement projects (£25m) on LTS which need further investigation in order to understand the need for investment. SGN's business plan has substantial shortcomings in respect of the detailed rationale, justification and supporting analysis associated with proposed interventions and expenditure for LTS and storage.

6.40. SGN forecast an increase in average expenditure on the governor replacement programme of 26 per cent relative to GDPCR1. This accounts for £111m, representing 2.4 per cent of total expenditure. There is considerable discussion over the business justification for targeting governor replacement, although it is unclear to us how SGN determined activity levels. We observe a significant variation in the unit costs between Scotland and Southern which requires further explanation. Currently the business plan lacks detail on the health of the governor population. The replacement justification is based on age profile of governor population rather than detailed assessment of risk posed by individual installations.

6.41. SGN propose to spend 2.7 per cent of total expenditure on connections which represents £123m over RIIO-GD1 period. SGN's proposals for connections costs are in line with other GDNs. However, they have not provided clear detail of cost changes or justification of this investment, given that their peak day demand will grow by less than 1 per cent over the ten year period for Southern and 1.9 per cent over the ten-year period for Scotland.

6.42. SGN plan to spend 8.3 per cent of their total expenditure on reinforcement, a much higher proportion than other GDNs. The £384m SGN has forecast for reinforcement is a 42 per cent increase in GDPCR1 annual average expenditure, despite claims within the business plan of significant cost reductions for this activity. Further work is required to identify the reasons for this discrepancy and evaluate the need for high levels of capacity investment. We also note that SGN's unit costs for reinforcement are high compared with other GDNs.

6.43. Other capex costs within the business plan need better justification. We could find limited financial or other justifications which would support these items of expenditure.

6.44. SGN has the the lowest historic and forecast IT capex and opex. The business plan would benefit from an explanation of how they are planning to maintain this level of performance.

6.45. Some areas of the capex data tables submitted by SGN were incomplete. For example, SGN failed to submit asset health data.

**Replacement expenditure**

6.46. Table 6.5 sets out the proposed replacement expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table [x] SGN's forecasts of repex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| Sc | 56.7 | 29.4% | (9.2%) |
| So | 168.6 | 43.8% | (1.0%) |
| **SGN** | **225.3** | **39.0%** | **(3.2%)** |

1 Excluding RPEs.

6.47. SGN's business plan lacks detail in most repex areas, and we require further justification for the proposed investment. The plan could have been more balanced in its approach in some areas. For example, there was much less discussion of the tier 1 workload (£1 billion over the RIIO-GD1 period) than the proposed multi-occupational building expenditure of £83m.

6.48. We expected to see the plan reflect the new HSE repex policy which allows GDNs greater flexibility in relation to the level and selection of iron mains. Overall, SGN proposes to maintain iron mains replacement at current levels.

6.49. SGN is the only GDN to determine tier 2 replacement volumes based on a fixed length instead of determining a risk threshold value. The HSE policy clearly defines that mandatory work is required above the tier 2 risk threshold and below this the GDNs should look to justify any proposed work using cost benefit assessment. In the absence of a stated tier 2 threshold, it appears that SGN has not adopted the revised HSE strategy. There is a limited explanation of the reasons for their preferred approach but there is insufficient analysis of its impact. There is a sense of a "business as usual" approach to repex rather than maximising the opportunities from the HSE's new repex policy.

6.50. SGN submitted an appendix setting out their approach to CBA. We welcome their analysis of deterioration of mains by diameter band and failure mechanism. Although this data has its limitations, SGN clearly has access to relevant information on which to develop a strategy across the three tiers by assessing appropriate alternatives to managing risk. We note, for example, that deterioration is mainly attributed to joint failure, in which case we would expect further examination of management of risk by, for example, proactive joint repair or gas conditioning.

6.51. Tier 2 and 3 non-mandatory workload is included to further develop projects around tier 1 pipes. Further information is required to quantify the benefits this achieves, supported by CBA.

6.52. In terms of outputs, we note that although SGN forecast a significant reduction in "gas in building" incidences, they forecast an increase in the fracture rate over the same period. This implies that investment in mains replacement is not reducing failure rates, and incidences of gas in buildings are driven down by other means. Further analysis and information is required to support mains investment and safety risk improvement. SGN's forecast reduction in shrinkage is low compared with other GDNs.

6.53. SGN propose a similar approach to service replacement as for the current price control period, replacing services in conjunction with the iron mains programme and also propose to target types of services known to be in poor condition. Further information to quantify the health and risk of services, the options considered and the outputs associated with this activity are required.

6.54. SGN proposed significantly higher investments in proactive and reactive infrastructure replacement for multi-occupancy premises. The proposed increase in investment necessitates further evidence supporting the need and the efficiency in managing the associated risk for these assets.

### Real price effects and ongoing efficiency

6.55. We have calculated that the net effect of SGN's assumptions for RPEs and ongoing efficiency in their plan are -0.2 per cent per annum for opex, +0.1 per cent per annum for capex and +0.5 per cent per annum for repex.

*RPEs*

6.56. SGN and WWU have submitted a report by Oxford Economics to support their view on RPEs. They have used this report, evidence from the Competition Commission ruling on Bristol Water and a DECC paper on the future impact of climate change policy to produce their RPE assumptions.

6.57. SGN has submitted the lowest RPEs of all the GDNs. SGN support their assumptions on RPEs by stating they will look to minimise the impact of RPEs through procurement and employment strategy.

*Ongoing efficiency*

6.58. SGN has used the same report from First Economics as NGN. Their assumptions for ongoing efficiency are therefore the same: 1 per cent per annum for opex (although they state that it will be zero per cent per annum for operational support as there is no room to make further savings), 0.6 per cent per annum for capex and 0.5 per cent per annum for repex.

6.59. SGN also consider that the benefits of comparative competition are close to being fully realised, indicating Southern has more than met the target and Scotland has 1 per cent savings still to achieve. SGN, with the exception of their statement on operational support, has not included in their submission any evidence to support their claim that over RIIO-GD1 they will no longer be able to achieve the cost savings being achieved in the current price control. We note that the analysis conducted by Ofgem in 2005 produced an estimate of the benefits to consumers of gas distribution network sales.

## Assessment of efficient financial costs

### Summary

6.60. SGN's financial proposals depart from our policies in substantive areas, and more so than any other GDN. We do not consider that their proposed changes are well-justified. SGN's financial models contained some data inconsistencies, which led to some difficulties in assessing the business plan. The overall proposals for financeability are not well-justified, and we do not consider that the overall financial plan is efficient.

## Technical accounting

*RAV, Tax, Pensions and totex capitalisation*

6.61. In general, SGN has complied with our policies across technical accounting areas with the exception of the totex rate. SGN calculated a combined totex capitalisation rate for the group rather than for each network separately. We are also concerned that pension deficit data was based on the last triennial valuation as at 31 March 2009.

## Corporate finance

*Key content*

6.62. SGN provided limited justification for its corporate finance proposals, although it did provide supplementary papers from its consultants, Oxera, which examined the specific implications on SGN's cost of equity of the risk profile of RIIO-GD1 and the introduction of cost of debt indexation. SGN's risk analysis and RoRE were limited and referred to the group as a whole (rather than each licensee). We also note that RoRE was not calculated at SGN's proposed notional gearing level of 62.5 per cent. SGN tested its business plan against reasonable credit metrics, but did not show any evidence that it considered how different packages could achieve financeability.

*Reflects our policies*

6.63. The key policies are cost of debt indexation, full capitalisation of repex, and our introduction of front-loaded depreciation profile for post-2002 assets. SGN seeks an uplift to the cost of debt index and introduces 38-year asset lives (rather than our policy of 45 years) as a means to secure financeability.

6.64. SGN proposes a 60bps uplift to the cost of debt index to reflect issuance costs and the risk of underperforming the index. However, we have already addressed the arguments put forward by SGN in our March strategy decision, and we therefore do not find their proposals well-justified.

6.65. SGN uses 38-year asset lives as a financeability adjustment to mitigate the cash flow impact of full repex capitalisation. No material is provided to suggest that SGN disputes our use of 45-year asset lives as a principle. Nor is there any evidence in the business plan that SGN considered transitional arrangements on repex capitalisation (as all other GDNs did) as a mechanism for addressing any financeability issues. We do not consider this departure from our policy to be well-justified.

*Efficiency of costs*

6.66. We do not consider SGN's proposals for the cost of debt index and depreciation profile are well-justified, and therefore not cost-efficient. We have also

assessed the efficiency of SGN's proposals on the cost of equity and financial structure.

6.67. **Cost of equity:** SGN proposes a cost of equity figure of 7.5 per cent (real post-tax), which is outside the range (6.0–7.2 per cent) we set out in the Strategy Decision paper. Their proposed cost is largely based on material previously submitted to us and produced by Oxera, supplemented by additional input from Oxera on the risk implications of RIIO-GD1 relative to GDPCR1. We do not find SGN's arguments sufficient to support a cost of equity outside our proposed range.

**Financeability assessment:** SGN provides financeability assessment based on reasonable ratios. However, it does not show how its plan represents the best balance between financeability and the costs borne by consumers. Therefore, we do not consider that its proposed corporate finance costs are efficient. Furthermore, we note (small) differences between the credit ratios in SGN's financial models and the ones in its business plan narrative. SGN does provide substantive arguments to support its assumption of 5 per cent notional dividends.

## Assessment of uncertainty and risk

### Management of risk and uncertainty over RIIO- GD1

6.68. There is a lack of detail provided by SGN in their plan on how they have identified and assessed the impact of risks or how they will manage risks over RIIO-GD1. There is some high level detail on their management strategy for evaluating risk but no information has been provided on the potential magnitude of uncertain costs that they are proposing to be captured through uncertainty mechanisms.

6.69. By contrast, SGN has set out the most thought-through proposals in relation to charging volatility (as noted by respondents to the business plans). They have proposed a range of solutions that they consider, when combined, would help mitigate volatility. Part of their proposal to manage volatility involves a sliding scale capping mechanism. In effect this would result in a requirement for more material changes to allowed revenue (and therefore to customer charges) requiring a greater notice period to be provided to stakeholders. If the notice period cannot be met, and therefore charges were not changed, then the under or over recovery of allowed revenue would flow through into future years of the price control. They note in their business plan that this proposal needs further development and testing. We are keen that this work is developed in order for us to fully assess the implications. One concern is the exclusion of changes to allowed revenue due to uncertainty mechanisms from the proposal outlined above. We will discuss with SGN their reasons for this exclusion.

### Proposed uncertainty mechanisms

6.70. SGN has suggested additional areas of cost to be recoverable through our proposed uncertainty mechanisms, ie they think the scope of mechanisms should be increased. They propose that the reopener mechanism also capture increased costs

associated with the smart meter roll-out, changes to the National Transmission System (NTS) and legislative change. They also propose that Xoserve costs should be included as a pass through. There is no assessment by SGN of the likelihood of these costs arising or the materiality of them. There is also no assessment of who is best placed to manage the risk. We clearly stated in our March strategy decision what criteria would need to be fulfilled in order for additional uncertainty mechanisms to be used. SGN will need to provide this information in their next business plan submission if they still wish to request these additional mechanisms.

6.71. They have also requested that the reopener for lane rental charges associated with the street works regime be more flexible, ie it should be triggered at any time once a materiality threshold has been met rather than being restricted to two windows. Again, they have not provided the evidence required on the materiality and impact of their proposed change to our March strategy decision.

6.72. In their Scotland network they have proposed an additional uncertainty mechanism for the development of their network to incorporate change to the supply to Scottish Independent Undertakings (SIUs). There is uncertainty over the future fuel source for the SIUs to replace the existing Liquified Natural Gas (LNG) supply. SGN has proposed both Compressed Natural Gas (CNG) plus a range of potential complementary solutions to replace the existing LNG supplies. However, SGN proposes to delay identifying the enduring solution until 2015. Our initial view is that the proposed uncertainty mechanism may provide benefits to consumers and we will work with SGN to further understand their proposed approach.

# 7. Assessment of WWU's business plan

**Chapter Summary**

This chapter provides our assessment of the Wales & West Utilities (WWU) business plan.

## Overall assessment

7.1. Figure 7.1 sets out our overall assessment of WWU's plan against each of the five broad categories below. We note the following key points:

7.2. WWU's business plan includes a clear structure, and clear sign-posting from the summary levels to the detailed analysis. We also consider that WWU undertook a robust stakeholder engagement process in forming their plan. The main omissions in the plan include (in common with other GDNs): a discussion around the longer-term context, and in particular, how to manage network assets given the poor asset health and consequence of failure data, and the uncertainty surrounding future network use; and details of their cost benefit analysis (CBA). WWU has submitted a detailed CBA model as part of the follow-up process, we which we are currently reviewing (at an industry wide-level).

7.3. In relation to social outputs, one respondent to our consultation was impressed with the rigour of their carbon monoxide (CO) proposals. WWU has also set out outputs and costs in relation to fuel poor networks. As stated above, we intend to discuss common industry issues in relation to both social outputs measures.

7.4. The main areas of concern are in relation to safety and reliability outputs. We have material concerns with WWU's asset investment plan, which will constitute the main area of work going-forward. For repex, we have concerns that WWU has not optimised their expenditure for tier 1 mains to reflect the greater flexibility offered by the Health and Safety Executive's (HSE's) repex policy. We also need to understand in more detail WWU's proposed population-weighted approach to setting the tier 2 risk-threshold. WWU is also proposing a significant increase in integrity based capex, eg compared with NGGD.

7.5. Our current comparative efficiency analysis shows WWU to be relatively low cost in terms of efficient delivery. However, this analysis is at a relatively early stage and we need to carry out further work on the appropriate cost drivers and company specific factors.

7.6. WWU submitted a detailed annex on its required financing arrangements. However, we do not consider that its proposals are efficient in relation to the proposed cost of equity of 7.5 per cent (real post tax) and uplift to the cost debt indexation by 35 bps.

7.7. WWUs plan sets out a number of additional uncertainty mechanisms to manage the risks through RIIO-GD1. We consider there is limited analysis provided in support of their request for additional uncertainty mechanisms. We are concerned that the current plan would put too much risk on the customer. Of the set of mechanisms they put forward, WWU has put forward an uncertainty mechanism for smart metering, which we recognise might have merit, and we will consider further.

7.8. Overall, we decided not to retain WWU within the fast-track process given the material issues that would need to be resolved in relation to its capex and repex programme, as well as its cost of equity and debt indexation proposals.

**Figure 7.1. Assessment of WWU's Business Plan**

| Category | Sub-category | WWU |
|---|---|---|
| Process | | |
| Outputs | | |
| Cost efficiency | *Strategy* | |
| | *Efficient delivery* | |
| Financial arrangements | *Financeability* | |
| | *Technical accounting* | |
| Uncertainty | | |

## Assessment of process

**Key content, structure, and completion of data template and financial model**

7.9. WWU's business plan includes a clear structure, and clear sign-posting from the summary levels to the detailed analysis. Part A includes an accessible Executive Summary. Part B includes more detail around the key themes, including outputs, financing, risk and uncertainty. Parts C and D provide more detail in relation to their investment plans and delivery. One potential omission is a summary document (within Part B) setting out the proposed efficiency of costs (instead cost proposals are set out in Part C. In relation to data consistency, WWU business plan templates were consistent with the business plan narrative. However, some (limited) areas of the data tables were incomplete, eg street works expenditure data.

7.10. The main omissions in the plan includes a discussion around the longer-term context, and in particular, how to manage network assets given the poor asset health and consequence of failure data, and the uncertainty surrounding future network use. The business plan states they have set out a plan to avoid significant risk of stranding post-2030 but we note that overall expenditure is increasing, eg relative to GDPCR1. As with other GDNs, we intend to discuss with WWU the implications of uncertainty over the future role of gas networks for investment asset plans during the next stage of our assessment. A second omission includes a detailed CBA, eg in support of both mandatory and non-mandatory iron mains replacement, where we have requested further details from WWU, and will be an additional focus of our work going-forward.

**Effective engagement and reflection of stakeholders' views**

7.11. WWU initiated their stakeholder engagement process in November 2010. They considered best practice from across other industries and government in determining their approach and also took into account their existing processes for stakeholder engagement. As a result of analysis of their current approach, WWU concluded that for RIIO-GD1 additional focus needed to be given to the views of government (regional and national) and consumers.

7.12. WWU adopted a phased approach to engagement, firstly prioritising issues, then assessing the impact of changes on the business plan. The final phase of engagement assessed the impacts associated with changes in HSE policy on mains replacement. In their business plan, WWU have presented feedback from stakeholder engagement clearly and demonstrated how this has impacted upon each output area.

7.13. Most of the specific stakeholder feedback WWU describes relates to outputs from workshop sessions held specifically to support the RIIO-GD1 process. As a consequence of the focus of WWU's approach, attendance at these workshops featured extensive representation from regional government and local authorities. Although WWU evidently engage with a much wider range of stakeholders (as business as usual) it is less clear to us how these other stakeholders affected the development of their business plan.

7.14. Although WWU demonstrate how their plan reflects stakeholder views, they do not clearly describe how feedback from stakeholders led to a distinct shift in their strategic approach. The views of stakeholders are also presented in a manner suggesting broad consensus and little indication is provided of differing views and how they balanced competing interests.

## Assessment of outputs

*Customer satisfaction*

7.15. WWU's proposals are consistent with the outputs set out in our March strategy decision.

*Social outputs – reducing risk associated with carbon monoxide (CO) poisoning*

7.16. WWU has considered stakeholder feedback in identifying what actions they should take to reduce risks associated with CO. Based on this feedback they propose to use a range of communication channels to build awareness of CO related risks. In addition WWU propose to equip their First Call Operatives with personal carbon monoxide monitors to identify when they or the customer they are visiting are at risk. Post visit support will be given where a high reading is reported to ensure the customer has taken the mitigating actions identified. No specific output measures have been proposed by WWU in relation to these activities.

7.17. One respondent was impressed by the rigour with which WWU analysed the results of SGN's trial of Carbon Monoxide detection instruments for FCOs and their subsequent decision to equip their FCOs with similar technology.

7.18. We consider that WWU has put forward well-justified proposals for addressing CO-related risks. We believe that further work can be done in this area to develop greater consistency across the GDNs, with particular regard to measuring the impact of activities intended to increase awareness. We intend to take forward this issue in an industry-wide working group.

*Social outputs – fuel poor network extensions*

7.19. WWU plan to provide an additional 10,800 fuel poor network extensions over the price control period, at a total cost of £11.6million. They estimate a total of 280,000 fuel poor customers in their area.

7.20. In common with other GDNs, we propose to discuss with WWU how they have identified the number of fuel poor household off-grid and eligible for the scheme, the proposed costs of connecting such customers, and therefore understand more clearly the basis for their proposed number of connections and associated costs.

*Connections policy*

7.21. WWU has expressed their commitment for developing voluntary standards of performance for gas entry customers in conjunction with other GDNs, including reporting on performance and compensation payments for breaches. Further work is required from across the GDN community to develop and implement these standards within the RIIO-GD1 price review period.

*Environmental outputs (excluding shrinkage)*

7.22. WWU has forecast reducing their business carbon footprint by 10 per cent over the period, predominantly through replacing their current vehicle fleet with a more efficient fleet at a cost of £39m. We need to consider these proposals as part of our overall cost assessment.

7.23. WWU provided detailed information on land remediation, and will spend £13.3 million on remediation of 22 sites. They aim to achieve a 4 per cent reduction against current levels of aggregate use and spoil to landfill, and also highlight the risks associated with upward cost pressures of increased compliance and reporting requirements.

*Environmental outputs (shrinkage and environmental emissions incentive)*

7.24. In most areas WWU plans follow the policy framework set out in our March strategy decision. However, they disagree with the current design of the rolling incentive mechanism. We consider that such a mechanism is required in order to

recognise the benefits of investment in leakage reduction beyond RIIO-GD1. We have discussed the design of the rolling incentive with the Environmental Working Group. We remain open to alternative proposals for a rolling mechanism that achieve the policy aim of providing a strong incentive to GDNs to reduce leakage throughout the review period, ie to address the disincentive to invest towards the end of the price control period. WWU has yet to propose any alternative to our proposals. We will continue to work with GDNs where they propose alternative mechanisms capable of delivering our policy objective. We plan to consult on the design of the rolling incentive in Initial Proposals in July.

7.25. In addition WWU's plans do not include any information on how they will use smart metering data to test the validity of the leakage model.

*Innovation strategy*

7.26. WWU has provided an innovation strategy but have not set-out the proposed level of funding. They have outlined the challenges they face, the role of innovation in their business and provided some evidence that stakeholders have been consulted. WWU provides a list of potential priorities and deliverables within their strategy, but this reflects the period up to the start of the price control, rather than the price control period itself (2013-2021). As with other GDNs, we will provide more detailed feedback to inform their innovation strategy for their second submission.

*Reliability*

7.27. Reliability outputs have been clearly set out in WWU's business plan and include specific values for primary outputs and secondary deliverables. Output categories are aligned with the framework set out in our March strategy decision. A limited review of historical performance is given which helps to validate forecast performance, however some of the values provided show deterioration over the RIIO-GD1 period and further explanation as to their derivation is required. Network capacity charts appear unchanged between the "without investment" and "with investment" information. The reliability outputs require a greater level of scrutiny than other output categories.

7.28. Health, criticality and risk indices are provided but further detail on how they have been developed needs to be established for individual assets to ensure measurements are consistent across asset groups.

*Safety*

7.29. Safety outputs have been clearly set out in WWU's business plan and include specific values for primary outputs and secondary deliverables. Output categories are aligned with the framework set out in our March strategy decision. A review of historic performance is given which helps to validate forecast performance, however we will carry out further work to assess the robustness of the values presented.

7.30. Some of the secondary deliverables have "maximum" and "minimum" values in recognition of the difficulty in forecasting reliable figures. Further work is required to determine the relationship between banded secondary deliverables and fixed commitments for risk removal.

7.31. WWU have included a further eight safety output measures to monitor their performance.

## Assessment of efficient expenditure

### Total expenditure

7.32. The average controllable total expenditure for the RIIO-GD1 period is £250.9m for WWU. This represents an increase of 17.5 per cent in costs compared with the average annual costs of the first three years of GDPCR1.

7.33. WWU's plan is well presented and signposted. For repex we have concerns that they have not considered the optimum delivery programme. They are increasing their integrity based capex significantly, compared with NGGD, which requires further understanding and justification.

### Operational expenditure

7.34. Table 7.1 sets out the proposed controllable operational expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 7.1 WWU's forecasts of controllable opex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| WWU | 99.4 | 38% | 29% |

[1]Excluding RPEs

7.35. Generally the cost movements can be identified in the business plan but are not necessarily fully justified (eg links to the capex and repex programme, apprentices and training) and have uncertainties surrounding them (eg smart metering and street works). There are also inconsistencies of approaches and assumptions across companies (eg gasholder decommissioning and smart metering) which we need to resolve with the industry.

7.36. WWU proposes an increase in integrity based capex but the plan does not demonstrate a clear effect this is having on their maintenance programme.

7.37. As part of their repex programme over RIIO-GD1 WWU proposes to decommission 31 per cent of their metallic mains but this is not reflected in opex activities such as reductions in external public reported escapes, repairs and leakage.

WWU has forecast a reduction in leakage of 15.7 per cent over RIIO-GD1. This is lower than NGGD and NGN who are reducing leakage by around 20 per cent.

7.38. WWU has proposed a significant increase in business support costs compared with the latest reported actuals which is not clearly understood. We would not have expected an increase without a justifiable change in the way they operate. IT & Communications accounts for the largest increase and we will require further understanding of their forecast.

**Table 7.2. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**

| | Direct Opex | | | | | | Indirect opex |
|---|---|---|---|---|---|---|---|
| | Total Direct Opex | Work Management | Emergency[1] | Repair | Maintenance | Other Direct Activities (excl. Xoserve) | Business Support (excl. R&D) |
| WWU | 30.6% | 8.2% | 122.0% | 16.1% | 56.8% | (46.6%) | 21.8% |

[1]WWU Smart Metering costs of £69m moved from ODA to Emergency for consistency purposes.

**Capital expenditure**

7.39. Table 7.3 sets out the proposed capital expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 7.3. WWU's forecasts of capex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| WWU | 60.4 | 24.8% | (1.9%) |

[1]Excluding RPEs

**Table 7.4. Percentage change in average annual expenditure from GDPCR1 to RIIO-GD1 (2008-09 to 2010-11 in actuals)**[1]

| GDN | Total Capex | LTS & storage | Reinforcement | Governor (renewal) | Connections | Other Capex |
|---|---|---|---|---|---|---|
| WWU | (1.9%) | 11.1% | 20.5% | 40.1% | 27.5% | (45.3%) |

[1] Cost movements are based on best available data from RRP returns and BPDTs. Note there are some issues of comparability of data between the two price control periods. In the case of governors further investigation will be required in order to fully understand cost movements between the two reporting periods.

7.40. The narrative for the capex cost areas of the WWU business plan is comprehensive, well written, demonstrates the methodology used to make capex investment decisions and outlines alternative options. However, we need a greater understanding of the robustness of information on the condition and deterioration of assets and how this data translates into volumes of asset replacement and other interventions and associated expenditure.

7.41. WWU has provided little detailed qualitative evidence to assess the proposed actions and investment deemed necessary to achieve the desired health of LTS assets by the end of the RIIO-GD1 period.

7.42. Expenditure on the LTS is significant for pipeline replacement and to support the decommissioning of four gasholders. Further scrutiny on the need to improve the construction standards of the LTS pipelines is necessary, and an assessment of the CBA taking in all the costs associated with individual gas holder demolition plans. Detailed rationale, justification and quantification of £22.4m for 20.5km of new LTS pipeline for storage purposes is required. Further investigation is also required to understand the 11 per cent increase over GDPCR1 levels of investment on LTS and storage representing £167m.

7.43. WWU proposes a 21 per cent increase in average annual reinforcement costs in RIIO-GD1 relative to GDPCR1 predicated on a forecast of recovery from the economic recession and increasing connections volumes. WWU appears to be the only GDN forecasting an increased throughput from the beginning of RIIO-GD1 relative to GDPCR1 actual throughput. We need to subject this level of investment in network capacity to further scrutiny.

7.44. WWU proposes a 40 per cent increase in average expenditure on their governor replacement programme relative to GDPCR1. The cost is high by comparison with other GDNs and relative to historical levels; total spend on governors represents 3.3 per cent of total expenditure which is the highest proportion of total expenditure for this activity by the GDNs. Further evidence is required to support the forecast expenditure in governor renewals. The need to reinforce systems categorised as critical by installing an additional 30 district governors is not adequately supported and the implications varied from one section of the business plan to another.

7.45. Some areas of the data tables submitted by WWU were incomplete, for example street works expenditure data.

7.46. The IT content is well presented and more comprehensive compared to other companies. The business plan reflects a strong commitment to the business objective of value for money and has good focus on other business objectives. WWU provides one of the best attempts at describing a coherent IT strategy; they show a good understanding of the current state of their systems and demonstrate a series of successful on time and on budget projects from the recent past. However, the IT strategy spend is too backward-looking rather than forward-looking, and lacks robust data in support of the expenditure. We will require more detailed analysis to support the proposals.

**Replacement expenditure**

7.47. Table 7.5 sets out the proposed replacement expenditure per annum, the proportion of total costs, and the proposed increase relative to the first three years of GDPRC1.

**Table 7.5 WWU's forecasts of repex in RIIO-GD1**[1]

| | Average annual forecast (£m) | As proportion of Totex | Percentage change over GDPCR1 |
|---|---|---|---|
| WWU | 91.1 | 37.4% | 22.0% |

[1]Excluding RPEs.

7.48. This area of WWU's plan is well presented and signposted overall. There is analysis supporting investment in mains and services, in particular leakage levels from different assets.

7.49. The approach taken for the iron mains tier 1 category maintains a strong emphasis on mains risk prioritisation. Companies are required to prioritise 20 per cent of the tier 1 volumes based on risk but WWU are prioritising 60 per cent on this basis, with the remaining 40 per cent being targeted based on the outcome of a CBA taking in wider economic benefits. We would have expected an approach to select mains for replacement based on the total benefits of risk removal, avoided opex costs and efficiency of delivery, as well as all other benefits, ensuring the optimum value for money. We will need to undertake further analysis with WWU to understand if the plan is optimal.

7.50. Whilst the emphasis in tier 1 is on risk as determined by MRPS, WWU explain their concern at applying MRPS to the tier 2 iron mains population. WWU has assigned risk threshold values to tier 2 but has proposed an additional work volume for high consequence pipes, within the overall mandatory workload. These are pipes where the consequence of an incident is so high, future leakage would take the score above the mandatory threshold. This is similar to the approach taken by NGGD, and we need to investigate this approach further as we are not sure of what approach would have been taken under the current iron mains replacement strategy and whether this is sufficiently justified. As WWU has already taken into account the estimated impact of incidents (in terms of population density) in their derivation of the tier 2 risk threshold for different areas it is unclear why this additional volume is needed. The estimated probability of failures and leakage takes into account breakage history on other pipes in close proximity. If further events occur additional volumes would be accommodated through the volume driver for mandatory tier 2 work.

7.51. WWU is the only GDN to adopt a varying risk threshold value within their network, based on population density, ranging from 51.5 (high density urban) to 1030 (rural). We expect to develop a common approach to the threshold values across all networks, and we need to carry out further work to understand how WWU has derived their proposed values and how this compares with approaches taken by other GDNs.

7.52. Repex workload volumes are not sufficiently explained and further detail supported by evidence is required to understand the need for the volumes proposed. Where non-mandatory work is proposed, in terms of risk we expect this to be supported by detailed risk quantification and associated failure mechanisms, which may lead to solutions by alternative means which may include, for example, proactive joint repair or gas conditioning.

7.53. WWU discusses strategies for service replacement based on targeting high leakage areas and service types known to be in poor condition. However, we note a significant increase in annual work volumes and costs under RIIO-GD1 than is currently undertaken, which is not clearly justified. Further information to quantify the health and risk of services, the options considered and the outputs associated with this activity are required.

### Real price effects and ongoing efficiency

7.54. We have calculated that the net effect of WWU's assumptions for RPEs and ongoing efficiency in their plan are -0.2 per cent per annum for opex, zero per cent per annum for capex and zero per cent per annum for repex.

*RPEs*

7.55. WWU and SGN have commissioned a report by consultants Oxford Economics to support their RPE assumptions. The methodology relies on models built on the relationships between key macroeconomic factors. WWU consider that a review of RPEs should form part of the mid period review. We do not think that this has merit as it will remove the incentive on WWU to manage their cost pressures.

*Ongoing efficiency*

7.56. WWU state they will reduce opex by 23 per cent by the end of the current price control period. Savings have been made by reducing headcount, reducing wage bills per head, increasing productivity and reducing costs on facilities and contractors. Their assumption for RIIO-GD1 is a 1 per cent per annum ongoing efficiency target which will offset the impact of RPEs. They state that this assumption is based on regulatory precedent. They also think that the impact of comparative competition has been exhausted.

## Assessment of efficient financial costs

### Summary

7.57. WWU submitted a separate finance appendix which was comprehensive and supported by additional material from Oxera and a volatility model. WWU departs from our proposed policies in a number of key areas. Overall, we do not find their arguments well-justified and we do not consider that they represent efficient financial costs.

## Technical accounting

*RAV, Tax, Pensions and totex capitalisation*

7.58. In general WWU has complied with our policies across technical accounting areas. Initial departures from our policies on tax have been rectified. We have concerns that pension deficit data was based on a company valuation, rather than the scheme valuation, and does not comply with our set requirements. We will work with WWU to understand their approach in this area.

## Corporate finance

*Key content*

7.59. WWU provided a reasonably comprehensive submission in this area, including consultancy papers produced by Oxera covering the cost of equity, the impact of duration on risk and the impact of cost of debt indexation. WWU sought to justify its cost of equity submission with additional analysis using a comparison of the risk-return profile in RIIO-GD1 and GDPCR1. WWU's financeability assessment was very limited, but it did provide reasonable amount of detail on the impact of its proposals on consumer bills (although no sensitivity of the impact was presented). The main omission was a limited discussion of input from stakeholders.

*Reflects our policies*

7.60. The key policies are cost of debt indexation, full capitalisation of repex, and our introduction of front-loaded depreciation profile for post-2002 assets. WWU accepted these policies, but seeks an uplift of 35bps to the cost of debt index. However, we have considered and rejected the arguments put forward by WWU in our March strategy decision, and therefore we do not find them well-justified.

*Efficiency of costs*

7.61. WWU's proposed uplift to the cost of debt index is not consistent with our March strategy decision, and we do not consider that it reflects efficient debt financing costs. We have assessed the efficiency of WWU's proposals on the cost of equity and financial structure, as well as its proposed transitional arrangements on totex capitalisation.

7.62. **Cost of equity:** WWU proposes a cost of equity figure of 7.5 per cent (real post-tax), which is outside the range (6.0–7.2 per cent) we set out in the March strategy decision. The figure is largely based on material previously submitted to us and produced by Oxera, and supplemented by WWU's risk analysis in which it compares the risk-return profile of RIIO-GD1 with that of GDPCR1. We do not find the above arguments sufficient to justify a cost of equity assumption outside our range.

7.63. **Financeability assessment and transitional arrangements:** Any assessment of the overall transitional arrangements is the result of a number of choices that interact with each other including the cost of equity and notional gearing, in the context of the level of investment. WWU's financeability assessment is limited to the Adjusted Interest Cover Ratio (also known as the Post-Maintenance Interest Cover Ratio (PMICR)). This analysis does not provide sufficient evidence to convince us that WWU's proposals represent efficient financial costs. WWU also departs from our approach on notional dividends and notional equity issuance by imposing a fixed gearing ratio throughout the price control period. We note, however, that the impact of WWU imposing a fixed gearing ratio on allowed revenues is relatively small.

## Assessment of uncertainty and risk

### Management of risk and uncertainty over RIIO- GD1

7.64. WWU's analysis of risk included the perceived increase in risk under the RIIO framework and an eight year price control. They have highlighted that this increase in risk must be recognised in the returns that investors can earn. They then discuss specific areas that are uncertain and include a range of additional uncertainty mechanisms to manage the risks through RIIO-GD1. There is limited analysis provided in support of their request for additional uncertainty mechanisms. In particular they have not shown us that they have considered the impact that they will have on risk sharing and the consequential impact on customers. We require more evidence to be provided, based on the criteria set out in the March strategy decision, to assess the appropriateness of their proposals. We are concerned that the current plan would put too much risk on the customer.

7.65. They have not considered the issue of charging volatility that all other GDNs have raised as a key stakeholder concern.

### Proposed uncertainty mechanisms

7.66. WWU has requested an alternative approach to funding the emergency service. Our proposal is to remove the current loss of meter work revenue driver, which provides a mechanism to part fund the emergency service that the GDNs provide. In RIIO-GD1 funding will be provided through an ex ante allowance and benchmarking across the GDNs will be used to determine the efficient allowance. WWUs proposal is for all efficient costs to be allowed as part of the price control, ie the cost of the emergency service would be a pass through cost. Our position on the funding of the emergency service has not changed since the March strategy decision was published.

7.67. WWU have proposed a mechanism for uncertain smart metering costs. Their mechanism combines an ex ante allowance, for relatively fixed costs, and a volume driver that will provide additional funding as smart meters are rolled out. This approach appears to have some merit as long as there is a reasonable level of certainty around the fixed costs that are likely to be incurred and that an efficient

cost can be set for the volume driver. We will be discussing the approach to funding smart metering related costs further with industry.

7.68. WWU also consider that there is a requirement for a broad reopener. This would allow revenues to adjust were a range of potential additional costs to arise. Examples of the additional costs that they have proposed to be included are: changes to environmental Legislation, HSE requirements, changes to commercial arrangements driven by the NTS, and costs to connect large loads to the network. While the reopener could only be triggered were costs to exceed one per cent of allowed revenues we have always stated that uncertainty mechanisms should only be used where there is clear benefit and the drawbacks can be minimised. While GDNs may not have full control over costs that arise in these areas they do have the ability to influence decision making. By providing a mechanism that allows revenues to adjust under the above scenarios we reduce the incentive on the GDNs to be proactive in their approach to minimise potential additional costs.

# Appendices

**Index**

# Appendix 1 Full summary of respondents' views

1.1. There were four responses to our December letter, which can be found on our website.[17] Three respondents made comments on the plans as a whole, while one concentrated on carbon-monoxide (CO) related sections of the plan. The key points raised by respondents were as follows.

**Process**

1.2. There were mixed views from one respondent on the quality and comparability of the plans. They thought that no plan was suitably well-justified to meet the requirements for fast tracking and thought it would not be in the interests of consumers to fast track any of the GDNs. They do though note the significant step forward that has been made for this price control review. This view was reiterated by another respondent who welcomed the improved stakeholder engagement process. All respondents commented positively on the stakeholder engagement process of the GDNs. One noted that it had been of benefit in ensuring the business plans contained all relevant information. While another thought that it had worked well and that the views of stakeholders have been well balanced against the GDNs other business needs and their decision making process.

1.3. Two respondents thought the business plans to be comprehensive, transparent and that they provided detailed justifications for the level of investment being asked for.

**Outputs**

1.4. The respondent that commented on CO related issues in the plan was disappointed that discussions and actions from previous working group meetings, at which they were present, had not been fully accommodated into the GDNs' business plans. In particular they were concerned with the lack of consistency in approach that the GDNs have outlined. They had hoped that this would be one key outcome of full industry involvement in the working group. The key positives they took from the GDNs plans were SGN's provision of personal CO monitors to all its field workers, WWU's plan to also provide personal CO monitors to all emergency engineers and NGN's inclusion of their stakeholders' views that they should do more.

1.5. One respondent has suggested an incentive mechanism for LDZ offtake meters that would penalise a GDN for metering errors. They have also suggested that an

[17] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=325&refer=Networks/GasDistr/RIIO-GD1/ConRes

incentive is required that links gas shrinkage, upstream theft and unregistered sites as currently there is no incentive on the GDNs to identify unregistered sites.

**Cost assessment**

1.6. One respondent, a supplier, thought that the plans clearly provided them with the right level of information in the GDN's revenue requirements in order to meet current and future customer needs. They do though note that they think SGN's plan best addressed the link between future gas demand and investment requirements on the network, while acknowledging that this was the plan they were most interested in given a significant proportion of their customers are part of this network.

1.7. Another respondent, commenting on the planned repex programmes, thought that WWU's plan, when compared against the others, did not provide sufficient information to allow them to understand their workload volumes. The same respondent thought it was difficult to compare current mains replacement workload volumes, in GDPCR1, with those planned for RIIO-GD1. But they did appreciate the inclusion of comparable opex, capex and repex information for key asset groups provided in all plans.

1.8. There was concern from one respondent that on average GDNs are asking for revenue increases when in their opinion the main drivers of GDN costs should be resulting in revenue decreases. They had comments on specific areas of the GDNs' business plans, including:

- RPEs: thought there was not enough justification for the RPEs requested, and that in general they appear high.
- Traffic Management Act costs: in their view an allowance should be given where there is reasonable certainty on the costs and that additional costs should be assessed at the four year interval in RIIO-GD1.
- Metering emergency service: think that GDNs will need to be more flexible as smart meters are rolled out but they do not think it should add significant costs.
- Reinforcement: do not think that large investment is still required due to reducing demand.
- Mains replacement: they were pleased to see reductions in this area of cost for NGGD but thought it was unclear in the other plans what savings customers would see.
- DN sales savings: they did not think the plans showed clearly where these savings, from the sale by National Grid of four GDNs, have been captured.

1.9. One respondent noted that despite a large investment in replacement and repair expenditure over RIIO-GD1 the data provided by some GDNs indicates that it is not improving some measures of safety eg projected gas-in-building incidents or breaks/fractures on the network.

**Financial**

1.10. One respondent did not have any concerns with the requested financial packages. While another thought that they were extremely generous. In particular this respondent thought that based on the maturity and relative stability of the market the capital requirements should be lower and that the transitional arrangements requested had not been justified.

**Uncertainty**

1.11. A respondent thought that the plans contained robust risk analysis and good plans to mitigate identified risks. They agree that the roll-out of smart meters is a key uncertainty for the network companies. Another respondent noted that given the range of uncertainty mechanisms proposed they would expect this to be reflected by a lower cost of equity.

1.12. One respondent was pleased to note that their concerns around charging volatility had been addressed by SGN in their business plan. Another respondent was disappointed in the lack of detail provided on how the GDNs would manage charging volatility as they too had raised it as a key concern in the stakeholder engagement process. They did though note that SGN's plan provided the greatest level of detail and had proposed a specific measure to mitigate volatility.

**Other**

1.13. One respondent considered that the issue of when gas holder site remediation, following demolition, should take place is worthy of further debate.

# Appendix 2 Assessment criteria

The following table shows the mapping of our fifteen assessment criteria to the five broad assessment categories.

| Criterion | Description |
|---|---|
| **Process: Has the company followed a robust process?** | |
| Key content | Has the company included main elements of well-justified business plan? |
| Structure and proportionately | Is the business plan well-structured? |
| Effective engagement | Has the company engaged with stakeholders, and explained how this has influenced its business plan? |
| Accurate, timely and complete business plan templates | Has the company submitted and justified all templates and the financial model? |
| **Outputs: Does the plan deliver the required outputs?** | |
| Reflection of our policies | Does the business plan conform with the outputs specified in our March strategy decision and are any departures well-justified? |
| Long-term context | Does the business plan provide a strategy for long-term delivery? |
| Output delivery | Has the company explained resource implications for output delivery, and demonstrated these are efficient? |
| Quality of info on primary outputs | Has the company explained how it will deliver outputs, and justified output baseline/forecast? |
| Quality of info on secondary deliverables | Has the company explained and justified use of secondary deliverables? |
| **Resources (efficient expenditure): Are the costs of delivering the outputs efficient?** | |
| Efficiency of costs | Has the company demonstrated that cost projections are efficient? |
| Reflecting best-practice | How the does plan compare with others/ best-practice? |
| Evidence | Has the company provided evidence costs (inc financial costs) are efficient, eg through market-testing? |
| Linking forecasts to historical performance | Has the company explained cost projections in context of historical performance? |
| **Resources (efficient financing): Are the proposed financing arrangements efficient?** | |
| Reflection of our policies | Reflection of our policies – Does the business plan conform with the financial policies specified in March strategy decision and are any departures well-justified? |
| Efficiency of costs | Has the company demonstrated that cost projections are efficient? |
| Evidence | Has company provided evidence costs (inc fin costs) are efficient, eg through market-testing? |
| Linking forecasts to historical performance | Has the company explained cost projections in context of historical performance? |
| **Uncertainty & risk: How well does the plan deal with uncertainty and risk?** | |
| Reflect uncertainty | Has the company considered how it will address uncertainty (eg incl. uncertainty mechanisms)? |
| Risk | Has the company considered risk and how to mitigate those risks? |

# Appendix 3 Replacement expenditure, workload and outputs summary

## Repex summary

| | unit | EoE | Lon | NW | WM | NGN | Sc | So | WWU |
|---|---|---|---|---|---|---|---|---|---|
| **Tier 1** | £m | 560 | 611 | 467 | 349 | 413 | 250 | 771 | 378 |
| **Tier 2** | £m | 67 | 112 | 98 | 79 | 41 | 51 | 106 | 75 |
| **Tier 3** | £m | 32 | 259 | 40 | 23 | 11 | 4 | 11 | 6 |
| **Total repex mains** | **£m** | **659** | **982** | **605** | **451** | **465** | **306** | **888** | **459** |
| | | | | | | | | | |
| **Annual average mains cost GDPCR1 (actuals 2008/09 to 2010/11)** | £m | 81 | 78 | 85 | 58 | 54 | 41 | 102 | 48 |
| **Average annual mains cost RIIO-GD1** | £m | 82 | 123 | 76 | 56 | 58 | 38 | 111 | 57 |
| **Cost change in RIIO-GD1 from 3 year GDPCR1 actuals** | % change | 1% | 57% | -11% | -3% | 8% | -6% | 8% | 19% |
| | | | | | | | | | |
| **Tier 1 mains workload (km)** | km | 4,895 | 2,760 | 3,709 | 2,673 | 4,179 | 2,015 | 4,832 | 3,170 |
| **Tier 2 mains workload (km)**[1] | km | 212 | 212 | 266 | 208 | 236 | 263 | 421 | 380 |
| **Tier 3 mains workload (km)** | km | 48 | 226 | 96 | 61 | 37 | 15 | 30 | 18 |
| **Total mains workload (km)** | **km** | **5,155** | **3,198** | **4,072** | **2,953** | **4,451** | **2,292** | **5,283** | **3,567** |
| | | | | | | | | | |
| **Tier 2 threshold value** | incidents per km per year x $10^{-5}$ | 165 | 182 | 193 | 224 | 142.88 | Workload based on historical lengths | | Rural: 1,030<br>Semi-Urban: 422<br>Urban: 103<br>High density urban: 51.1 |
| | | | | | | | | | |
| **Mains workload - annual average GDPCR1 (actuals 2008/09 to 2010/11)** | km | 706 | 346 | 580 | 395 | 550 | 292 | 676 | 405 |
| **Mains workload - annual average RIIO-GD1** | km | 644 | 400 | 509 | 369 | 556 | 287 | 660 | 446 |
| **Change in average annual mains workload** | % change | -9% | 16% | -12% | -7% | 1% | -2% | -2% | 10% |
| | | | | | | | | | |
| **Services total cost (incl transfers)** | £m | 283 | 378 | 259 | 178 | 253 | 130 | 381 | 261 |
| **Services workload annual average GDPCR1 (actuals 008/09 - 2010/11)** | km | 67,910 | 30,995 | 52,550 | 38,370 | 57,059 | 33,441 | 75,672 | 46,120 |
| **Services workload - Annual average RIIO-GD1** | km | 61,561 | 37,052 | 50,253 | 37,279 | 58,620 | 32,022 | 74,507 | 56,355 |
| **Change in average annual services workload** | % change | -9% | 20% | -4% | -3% | 3% | -4% | -2% | 22% |
| | | | | | | | | | |
| **MOBs (Proactive) (£m)** | £m | 3 | 46 | 12 | 8 | 8 | 16 | 61 | 5 |
| **Number MOBs (Reactive) (£m)** | £m | 0 | 15 | 0 | 0 | 4 | 4 | 21 | 0 |
| | | | | | | | | | |
| **Proportion of metallic mains removed** | % change | -33% | -36% | -39% | -33% | -37% | -38% | -33% | -31% |
| **Risk removal over RIIO-GD1 period** | incidents/year | 0.2000 | 0.2000 | 0.2000 | 0.2000 | 0.1215 | 0.0398 | 0.1067 | 0.1128 |
| **Risk reduction in incidents per year (RIIO-GD1)** | % change | -66.7% | -66.7% | -50.0% | -66.7% | -44.0% | -34.9% | -38.2% | -27.7% |
| **Shrinkage reduction (RIIO-GD1)** | % change | -18.4% | -20.1% | -20.4% | -17.3% | -20.4% | -4.8% | -2.9% | -15.7% |
| **Reduction in GIB (RIIO-GD1)** | % change | -21.5% | -21.6% | -21.7% | -21.7% | -7.8% | -10.1% | -29.6% | -20.8% |
| **Reduction in fractures/failures (CI/SI/DI) (RIIO-GD1)** | % change | -21.6% | -21.5% | -21.6% | -21.6% | -7.7% | 8.3% | 8.3% | -3.9% |
| **Change in number of mains condition repairs (RIIO-GD1)** | % change | -24.9% | -9.0% | -23.3% | -15.7% | -28.7% | 8.7% | 8.4% | -6.8% |
| **Change in service condition repairs (RIIO-GD1)** | % change | -30.4% | -24.7% | -29.0% | -35.9% | -7.7% | 8.3% | 8.3% | -22.1% |

[1]Minor data inconsistency for WM tier 2 mains workload data to be resolved.

1.14. The table above shows that the GDNs are proposing to abandon between 31 and 39 per cent of their metallic mains over the RIIO-GD1 period. The GDNs assume very different impacts of their respective programmes on outputs, although we acknowledge that there are factors than iron mains abandonment which impact on outputs.

1.15. NGGD forecasts a significant benefit in terms of risk reduction, shrinkage reduction, incidences of gas in buildings, incidences of fractures and failures and mains/services repairs. NGGD's London network shows a 57 per cent mains cost increase from a 16 per cent increase in mains workload linked to a significant tier 3 programme of work. Their remaining three networks show the greatest workload reductions of all the GDNs. Overall, NGGD appear to be forecasting the greatest benefits over RIIO-GD1 and, with the exception of the London network, the greatest reduction in workload from actual GDPCR1 levels.

1.16. NGN sets out lower benefits associated with their mains programme than NGGD, with the exception of mains condition repairs. In this area, NGN assume a 29 per cent reduction which is greater than the forecast by the other GDNs.

1.17. SGN is the only GDN forecasting an increase in mains fractures/failures and associated mains and services repairs despite their mains abandonment programme. However, their risk reduction and gas in buildings forecasts show significant improvement. The set of output values appear to us to be inconsistent, and we will need to undertake further analysis. SGN's shrinkage forecasts are also low in comparison with the other GDNs. The forecast risk reduction in SGN (Scotland) network is low compared with other networks.

1.18. WWU assumes a relatively low level of improvement in GIB occurrences and mains fractures/failures than most other GDNs, despite a 10 per cent increase in mains abandonment workload relative to first three years of the GDPCR1 period. NGGD's London network aside, WWU is proposing the highest increase in forecast mains costs from GDPCR actual levels; an increase of 19 per cent.

# Appendix 4 Feedback questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

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