Promoting choice and value
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RIIO-GD1: Initial Proposals

Supporting Document – Finance and uncertainty

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Overview:

This Supporting Document sets out further detail on the financial and uncertainty aspects of our Initial Proposals for the gas distribution price controls from 1 April 2013 to 31 March 2021.

The document is aimed at those seeking a detailed understanding of these financial aspects. Stakeholders wanting a more accessible overview should refer to the RIIO-GD1 Overview document.

Associated documents

Main consultation paper

RIIO-GD1: Initial Proposals - Overview

Supporting documents

RIIO-GD1: Initial Proposals – Supporting document – Outputs, incentives and innovation

RIIO-GD1: Initial Proposals – Supporting document – Cost efficiency

Associated documents

RIIO–T1/GD1: Financial model

Cost of capital study for RIIO–T1 and RIIO-GD1

Licence consultation documents

RIIO-T1 and RIIO-GD1: Draft licence conditions – First informal licence drafting consultation

RIIO GD1 Price Control Financial Handbook

Other associated documents

RIIO-GD1: Initial Proposals for Gas distribution networks (GDNs) - Headlines

Decision on strategy for the next gas distribution price control – RIIO-GD1

Glossary for all the RIIO-T1 and RIIO-GD1 documents

Contents

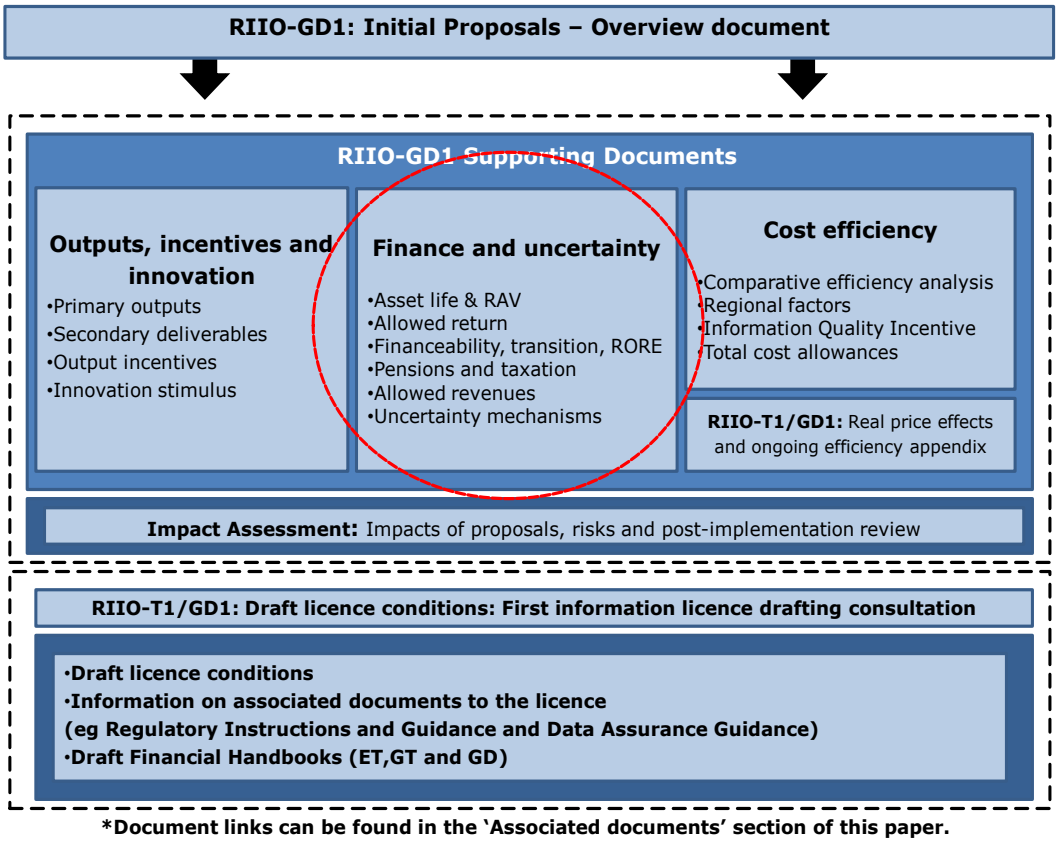
1. Introduction

Chapter Summary

This chapter explains the structure and purpose of this document.

Figure 1.1 below provides a map of the RIIO-T1 documents published as part of the suite of consultation documents.

Figure 1.1 RIIO-GD1 document map



***Document links can be found in the 'Associated documents' section of this paper.**

1.1. This document sets out further detail on our Initial Proposals for gas distribution network companies (GDNs) for the next price control, RIIO-GD1. This price control will cover the eight-year period from 1 April 2013 to 31 March 2021.

1.2. The document sets out detail on each of the key financial elements of the price control packages for GDNs. It is aimed at network companies, investors and those who require a more in-depth understanding of the proposals.

1.3. As noted in the Overview document these Initial Proposals build on the regulatory framework for RIIO-GD1 set out in our March 2011 Strategy Document[1] and are based directly on the updated RIIO-GD1 business plans developed by the GDNs.

1.4. The remaining chapters provide further detail on the individual financial elements of the price control package for both companies. The document is structured as follows:

- Chapter 2 outlines our approach to asset lives and gives provisional RAV values through RIIO-GD1.
- Chapter 3 outlines our assessment of the allowed return.
- Chapter 4 sets out our views on financeability and our assessment of the return on regulatory equity (RoRE).
- Chapter 5 details our approach to pensions.
- Chapter 6 outlines the basis of the tax allowances for both companies.
- Chapter 7 sets out the introduction under RIIO of the annual iteration process that we will use to update the GDNs' revenues in RIIO-GD1

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

2. Asset lives and RAV

Chapter Summary

This chapter sets out our Initial Proposals for asset lives, depreciation, totex capitalisation and the forecast movements on RAV during RIIO as a result of applying these proposals.

Questions

1. Do you agree with approach of using the profile for the release of backlog depreciation as a mechanism to smooth revenues and reduce their volatility through the RIIO-GD1 period?

2.1. One of the aims of RIIO is to put in place sustainable financial policies to encourage investment. A key policy in this respect is the use of economic asset lives. In our Strategy Document, we set out the asset lives and depreciation profiles we proposed to apply for RIIO-GD1, as well as the way we intended to approach establishing the capitalisation rate for totex. GDNs adopted these in their April business plans. Table 2.1 below summarises the key components of our proposals including our approach to setting repex capitalisation rates. The remainder of this chapter sets out our rationale for these proposals and the resultant RAV values.

Table 2.1 Summary of key components of Initial Proposals (asset lives and depreciation are in line with our Strategy Document)

Asset lives and depreciation		
RAV pool	Asset lives	depreciation
Pre 2002	56 years	sum of digits
Post 2002	45 years	sum of digits
Repex capitalisation rate transition		
Initial Proposals		Stepped from 50% in 2013-14 to 100% in 2020-21 in 7 equal instalments of 7.14% per annum

Asset lives and depreciation profiles

In our Strategy Document, we set out our intention to leave unchanged the average expected economic lives of the gas distribution network at 45 years for post 2002 assets. We also stated that we intended to leave the asset lives for pre-2002 asset unchanged at 56 years.

2.2. Our consultants, CEPA/SKM/GL, issued a report[2] in which they examined numerous scenarios for the future use of the gas distribution network. Whilst they concluded that there is significant uncertainty over the future use of the network, they suggested that making a change at this point was not justifiable. We did, however, state that we would continue to keep this under review at subsequent price controls.

Depreciation profiles

2.3. In our Strategy Document, we proposed a front loaded depreciation profile for post 2002 assets as a change from using straight line depreciation. This change was made to decrease the risk of increasing per customer charges should the forecast lower utilisation of the network transpire under the various scenarios of the future use of the gas distribution network. All GDNs have adopted this profile in their April business plan submissions and we have used this in our initial proposals.

2.4. Pre 2002 assets are already depreciated on a front loaded basis and will have been depreciated to around 65 per cent of their cost by the start of RIIO-GD1.

2.5. A consequence of our decision to apply a front loaded profile to all post 2002 assets, using a 45 year sum of digits approach, is that an amount of catch up, or 'backlog', depreciation is created, i.e. depreciation which should have been charged into revenue for the period between 2002 and 2013. GDNs detailed how they wanted to release this backlog in their business plan submissions. The majority have released it in equal increments over the eight years of RIIO-GD1. However, SGN used the release of the backlog to help sculpt or smooth their business plan revenues reducing potential charging volatility.

2.6. In our Initial Proposals, we have adopted the SGN approach to the release of the backlog depreciation. Where possible we have used the flat profile of backlog release. However, we have adopted a generic sculpted profile for the release of this backlog where this helps smooth revenues to reduce charging volatility. We may amend these profiles in light of any changes to revenues in Final Proposals. Table 2.2 below summarises the profiles we have used.

Table 2.2 Backlog depreciation profile used in our initial proposals

Year ended 31 March	2014	2015	2016	2017	2018	2019	2020	2021
NGGD, NGN, SGN	15.0%	15.0%	2.5%	0.0%	5.0%	12.5%	20.0%	30.0%
WWU	12.5% per annum							

[2] The Economic Lives of Energy Network Assets – Report by CEPA/SKM/GL on behalf of Ofgem http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/CEPA%20Econ%20Lives.pdf

Totex capitalisation rates and repex transition

2.7. The main additions to RAV (known as 'slow money') are calculated by applying the totex capitalisation rate to the totex amount. Totex comprises three elements, opex, capex and repex. In our Strategy Document, we set out our intention to change the capitalisation rate for repex from 50 per cent to 100 per cent at the start of RIIO-GD1. We also proposed that GDNs could use transitional arrangements for the repex capitalisation rate if needed for financeability reasons.

2.8. All the GDNs used transitional repex capitalisation arrangements within their April business plan submissions. Repex capitalisation rates impact directly on the totex capitalisation rates that have been used. If repex were capitalised at 100 per cent from the start of RIIO-GD1, then the totex capitalisation rate would be calculated as (repex + capex) / totex. This is termed the 'natural capitalisation' rate.

2.9. Table 2.3 below sets out the repex capitalisation rates used in GDNs' business plans submissions. Most have used flat or nearly flat profiles with the exception of WWU which has used a stepped approach starting in 2013-14 at 56.25 per cent and moving in 6.25 per cent steps per annum to reach 100 per cent in 2020-21. As a result of our financeability assessment discussed in chapter 4 below, we have used a stepped approach to capitalisation rates, which are also shown in table 2.3 below. Our stepped approach starts at 50 per cent in 2013-14 and uses seven annual steps of 7.14 per cent to get to 100 per cent in 2020-21.

Table 2.3 Summary of repex capitalisation rates

GDN	GDNs April business plan	Ofgem Proposals
NGGD	flat 75%	stepped 50% to 100% (7.14% pa)
NGN	variable between 77% and 83%	
Scotland	flat 85%	
Southern	flat 75%	
WWU	stepped 56.25% to 100% (6.25% pa)	

2.10. The change to repex transitional capitalisation rates and the changes to underlying opex, repex and capex spend in our proposals mean that the totex capitalisation rates will be different from those submitted by GDNs in their April business plans.

2.11. GDNs, in their business plans, calculated annual totex capitalisation rates using the above repex transition rates. All GDNs, with the exception of WWU, used a simple average of these rates as their RIIO-GD1 totex capitalisation rate. WWU used the annual totex capitalisation rates un-averaged as this would have negated the effect of stepping the repex transition. NGN in their April business plan submission also applied a further profiling adjustment to revenues to overcome the constraints of the average totex capitalisation rate.

2.12. In our Strategy Document, we stated our intention to use an average totex capitalisation rate to smooth out any timing differences that might arise on the forecast totex spend. As we have used a stepped approach to the transition of repex capitalisation, we have calculated totex capitalisation rates by averaging opex and capex spends over the RIIO-GD1 period together with our stepped repex values. The table below details illustrates this calculation for East of England.

Table 2.4 Illustration of the calculation of the totex capitalisation rate for East of England

Year ended 31 March £m (09/10 prices)	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**Total**
Capex	59.9	47.5	43.6	38.3	40.6	37.2	33.3	29.9	330.4
Controllable Opex	102.4	102.9	105.4	106.8	105.0	105.3	105.3	104.1	837.1
Repex	93.5	94.5	95.5	95.7	96.2	96.7	97.2	97.7	767.0
Totex	**255.8**	**244.9**	**244.5**	**240.7**	**241.8**	**239.2**	**235.8**	**231.7**	**1,934.5**
Smoothed (average) capex	41.3	41.3	41.3	41.3	41.3	41.3	41.3	41.3	330.4
Smoothed (average) controllable opex	104.6	104.6	104.6	104.6	104.6	104.6	104.6	104.6	837.1
Repex	93.5	94.5	95.5	95.7	96.2	96.7	97.2	97.7	767.0
Smoothed Totex (A)	**239.4**	**240.5**	**241.5**	**241.6**	**242.1**	**242.6**	**243.1**	**243.6**	**1,934.5**
Repex capitalisation rate	50.0%	57.1%	64.3%	71.4%	78.6%	85.7%	92.9%	100.0%	
Capitalised repex	46.8	54.0	61.4	68.3	75.6	82.9	90.3	97.7	576.9
Smoothed capex	41.3	41.3	41.3	41.3	41.3	41.3	41.3	41.3	330.4
Total (B)	**88.1**	**95.3**	**102.7**	**109.6**	**116.9**	**124.2**	**131.6**	**139.0**	**907.3**
Totex capitalisation rates (B/A)	**36.8%**	**39.6%**	**42.5%**	**45.4%**	**48.3%**	**51.2%**	**54.1%**	**57.1%**	

2.13. The totex capitalisation rates we have calculated start at between 35 per cent to 40 per cent and rise each year of RIIO to end between 54 per cent to 64 per cent in the same way as the calculation for East of England illustrated in the above table. The ranges for each GDN are shown in table 2.5 below. This table also includes the average natural capitalisation rates for the RIIO period (i.e. if repex had been capitalised at 100 per cent for the entire RIIO period) for comparison purposes.

Table 2.5 Summary of totex capitalisation rates

GDN	**GDNs April business plan**	**Ofgem Proposals**	
	Rates used	**Average Natural rate**	**With opex and capex smoothed**
East of England	46.0%	56.7%	35.8% to 57.1%
London	52.4%	63.4%	36.5% to 64.1%
North West	47.7%	56.6%	35.8% to 56.8%
West Midlands	49.6%	59.1%	36.9% to 59.0%
Northern	52.6%	58.8%	39.8% to 58.7%
Scotland	51.5%	53.4%	39.1% to 53.6%
Southern	50.7%	62.6%	40.1% to 62.8%
Wales & West	45.6% to 60.2%	55.6%	39.5% to 55.4%

Other movements on RAV during RIIO-GD1

2.14. The totex additions to RAV comprise most of the net additions to RAV in the table 2.6 below. There are other smaller elements added to RAV which comprise adjustments from previous price controls. These are provisional amounts at this stage as they will include forecast spends for 2012-13. We will adjust the provisional amounts through the annual iteration process (see chapter 7). The other movements comprise:

- An addition of fuel poor spend which was logged up during GDPCR1 and enters RAV at the start of RIIO-GD1. The explanation of this calculation is set out below.
- A deduction for repex spend exceeding the GDPCR1 repex cap (if appropriate).
- A deduction for disposal proceeds during GDPCR1, which is subject to a five-year deferral before being deducted from RAV. The disposal proceeds are netted against additions as the amounts are small in the normal course of events.

2.15. The policy relating to fuel poor expenditure is set out in a letter to GDNs dated 16 July 2009[3]. The capital costs associated with fuel poor connections have been logged up outside of the RAV during GDPCR1 and have been added to the RAV at the start of RIIO-GD1. In addition, a revenue adjustment is made to true-up lost return and depreciation up to this point. The amount being logged up for adding to the RAV comprises the capex relating to single connections, the capex in relation to community schemes plus the fuel poor discount relating to community schemes. The fuel poor discount is calculated as being equivalent to the net present value of the net transportation revenue expected to be received as a result of the connection. The fuel poor discount is included in RAV for five years before being removed.

2.16. We set out our proposed RAV methodology in appendix 8 of the Financial Issues Supplementary Annex to the Strategy Decision. We still propose to apply this with some small adjustments as detailed below.

2.17. The RAV methodology has been updated as follows. We have clarified that:

- the treatment of Traffic Management Act penalty costs can exceptionally be treated as totex if they can be shown to be efficient
- pension deficit repair payments relating to the incremental deficit are treated as totex; and
- contributions and other proceeds received (including from legal and insurance claims) relating to the licensees regulated business are treated as an offset to totex unless specifically excluded or specifically applied directly to the RAV

[3] Final position on the non gas fuel poor network extension scheme http://www.ofgem.gov.uk/Networks/GasDistr/GasDistrPol/Documents1/Revised%20Position%20letter%2016July2009.pdf

RAV balances

2.18. Table 2.6 below shows the projected closing RAV balances by GDN based on our Initial Proposals.

Table 2.6 Projected closing RAV balances during RIIO

Provisional Closing RAV for year ending 31 March (09/10 prices - £m)	Opening 2014	2014	2015	2016	2017	2018	2019	2020	2021
Industry	14,554	**14,453**	**14,381**	**14,412**	**14,489**	**14,570**	**14,639**	**14,687**	**14,695**
NGGD (total)	7,211	**7,141**	**7,089**	**7,092**	**7,114**	**7,145**	**7,170**	**7,187**	**7,184**
East	2,522	2,492	2,464	2,453	2,447	2,442	2,435	2,424	2,408
London	1,637	1,627	1,626	1,642	1,665	1,692	1,718	1,743	1,766
North West	1,739	1,716	1,699	1,694	1,695	1,698	1,698	1,697	1,689
West Midlands	1,314	1,305	1,300	1,304	1,307	1,314	1,319	1,323	1,322
NGN	1,589	**1,588**	**1,596**	**1,615**	**1,639**	**1,656**	**1,671**	**1,683**	**1,691**
SGN (total)	4,148	**4,125**	**4,104**	**4,112**	**4,141**	**4,172**	**4,199**	**4,209**	**4,206**
Scotland	1,274	1,268	1,262	1,264	1,273	1,280	1,285	1,282	1,274
Southern	2,874	2,858	2,842	2,848	2,868	2,892	2,914	2,927	2,933
Wales & West	1,607	**1,598**	**1,593**	**1,592**	**1,594**	**1,596**	**1,599**	**1,607**	**1,614**

3. Allowed return

Chapter Summary

This chapter sets out our Initial Proposals regarding the components of the allowed return – notional gearing, the cost of equity and the cost of debt. We explain the rationale for our proposals and address issues raised in the network companies' business plans.

Questions

2. Do you have any comments on our relative risk assessment?
3. Do you agree with our proposed elements of the allowed return?

3.1. This chapter outlines our proposals for the components of the allowed return for the eight GDNs and the implied 'vanilla' weighted average cost of capital (WACC),[4] which are set out in table 3.1. These rates reflect our view that the GDNs face notably less cash flow risk than the transmission companies will face over the same period under their price control (RIIO-T1).[5] The sections that follow describe the rationale for these proposals.

Table 3.1 Summary of allowed return proposals

	RIIO-GD1
Cost of equity (post-tax real)	6.7%
Cost of debt (pre-tax real)	iBoxx 10-year simple trailing average index (currently 3.03%)*
Notional gearing	65%
Implied vanilla WACC*	4.3%

* The value of the cost of debt index may change ahead of Final Proposals, and may vary during the price control period. Any changes would be reflected in the WACC.

3.2. We begin by reviewing the position set out in our Strategy Document, the network companies' proposals in their business plans, and our previously published views on these proposals. We then turn to discussing the relative risk of the RIIO-GD1 price controls, present our proposals for notional gearing and the cost of equity, and review issues that have been raised regarding the use of an index to estimate the cost of debt. We conclude by outlining the notional dividend, notional new equity and index-linked debt modelling assumptions that were used in deriving the financial packages.

[4] The 'vanilla' WACC consists of pre-tax cost of debt and post-tax cost of equity, weighted by a notional gearing (i.e. the relative share of debt) assumption.
[5] For more detail on the financial package of the transmission network companies and our assessment of their relative risk see RIIO-T1: Initial Proposals for NGGT and NGET – Finance http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/RIIO%20T1I%20NGGT%20and%20NGET%20Finance.pdf

3.3. We contracted FTI Consulting to review a number of the issues that have been raised by the network companies with regard to the allowed return. We are publishing the report that FTI Consulting produced alongside our Initial Proposals.[6] In its paper, FTI Consulting recommends using the mid-period review to re-assess certain aspects of the financial proposals. We reiterate that the mid-period review is a review of outputs and not of the financial package.

Summary of Strategy Document

3.4. In our Strategy Document, we set out our framework for the financial package in RIIO-GD1, as well as initial ranges.[7] This formed the context to the business plans that the network companies subsequently submitted to us. We set out our intention to:

- set notional gearing on a consistent basis with the cash flow risk in the regulatory package
- update annually the estimate of the cost of debt in the regulatory package based on a 10-year simple trailing average of the iBoxx GBP Non-Financials indices of 10+ years maturity with broad A and BBB credit ratings
- include a provision for companies to propose alternative weighting of the cost of debt index in exceptional circumstances
- convert the iBoxx indices to estimates of the real cost of debt by deflating them using the Bank of England's 10-year breakeven inflation data
- make no adjustments in the index for debt issuance fees, liquidity management fees, new issue premia or the inflation risk premium
- set an indicative range for the cost of equity of 6.0-7.2 per cent (post-tax real), and
- set an ex ante allowance for the cost of any notional new equity required in our financial proposals, with an ex post true-up.

Summary of business plans and our assessment

3.5. The GDNs submitted business plans in November 2011.[8] Overall, we were not convinced that any of the companies had justified their financial plans as being efficient.[9] The GDNs submitted revised business plans in April 2012.[10] All GDNs

[6] Cost of capital study for RIIO –T1 and GD1 price controls – report by FTI Consulting
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/RIIO%20T1%20Cost%20of%20capital%20study%20for%20RIIO%20T1%20and%20GD1.pdf

[7] Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Financial issues
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/T1decisionfinance.pdf

[8] RIIO-GD1: Gas Distribution Networks' (GDNs) business plans - publication and next steps
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/111209_GDN_busplans_thirdparty.pdf

[9] RIIO-GD1: Decision on fast-track process
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/120217_fast_track_decision_letter.pdf

[10] RIIO-GD1: Gas Distribution Networks' (GDNs) second business plans - publication and next steps
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/120514_GDN_busplans_thirdparty.pdf

sought lower equity financing costs in their revised business plans, either through a lower assumed cost of equity or higher notional gearing, or both.

3.6. In their business plans, the network companies raised a number of issues regarding the appropriate financial packages for RIIO-GD1. These issues include:

- the risk of the price control relative to the current price control
- the relative risk of transmission and gas distribution
- costs not explicitly covered by the cost of debt index
- the risk implications of annually updating the cost of debt based on an index
- the appropriate cost of equity, and
- the appropriate dividend policy to model as part of the financial package.

3.7. We address each of these points below in describing our proposals.

Relative risk

3.8. One of the key principles introduced as part of the RIIO approach is that the (base) allowed return for network companies should reflect their exposure to cash flow risk. This principle means that, where there are material differences in cash flow risk, the allowed return may be different across and within sectors.

3.9. The analysis in this section informed our assumptions on notional gearing and the cost of equity for RIIO-GD1. The third component of the allowed return – the cost of debt assumption – would be set annually based on a trailing average index, in line with our previously published decisions. Our analysis is, therefore, focused on identifying the relative risk of returns on equity of our Initial Proposals package since, assuming debt obligations are fully met, it is equity investors who bear the consequences of cash flow risk.

3.10. In our assessment of relative risk, we compare RIIO-GD1 to the existing price controls (GDPCR1, DPCR5 and TPCR4[11]), as well as comparing the sectors (gas distribution, electricity transmission and gas transmission) to each other. Additionally, we compare the eight GDNs to each other. In this regard, our approach takes into account investors' preference for consistent regulatory determinations.

3.11. In our view, the cash flow risk in a particular sector is determined by the balance of rewards, incentives and uncertainty mechanisms that the regulatory framework provides. In the remainder of this section we review in detail the scale of investment. We regard the scale of investment as the most significant differentiator of risk affecting both the asset beta (and, therefore, the cost of equity) and the appropriate level of notional gearing. We also consider two other factors that have been raised as material factors affecting risk – the incentive rate that applies to any over- or underspend, and the length of the price control period. The incentive rate does not, we consider, have a material impact on the asset beta but will influence the appropriate level of notional gearing and, therefore, the weighted average cost of

[11] For the purposes of this analysis we do not include the TPCR4 Rollover, as the decision on the allowed return for the Rollover was not informed by detailed risk analysis.

capital. We then bring the analysis together to arrive at an overall view on relative risk.

Scale of investment

3.12. As noted in the RIIO-T1 fast-track Initial Proposals, we consider the ratio of capex to RAV to be a better indicator of the riskiness of an investment programme than simply looking at absolute capex levels. This approach is consistent with the considerations of the major credit rating agencies. Where this ratio is higher, we consider the company to be potentially exposed to higher cash flow risk, and vice versa.

3.13. A second consideration is how volume and unit cost risk are allocated within the investment programme. The structure of the RIIO price controls, particularly for transmission, allows for additional investment to be funded if a sufficient needs case is identified during the price control period. As such, these allowances, by virtue of being set near the time of investment, would typically expose the company to less risk than with 'base' totex allowances set at the start of the period. Therefore, allowances can be split into three stylised categories (although in practise the difference is less clear-cut with the level of actual risk being dependent upon specific regulatory arrangements):

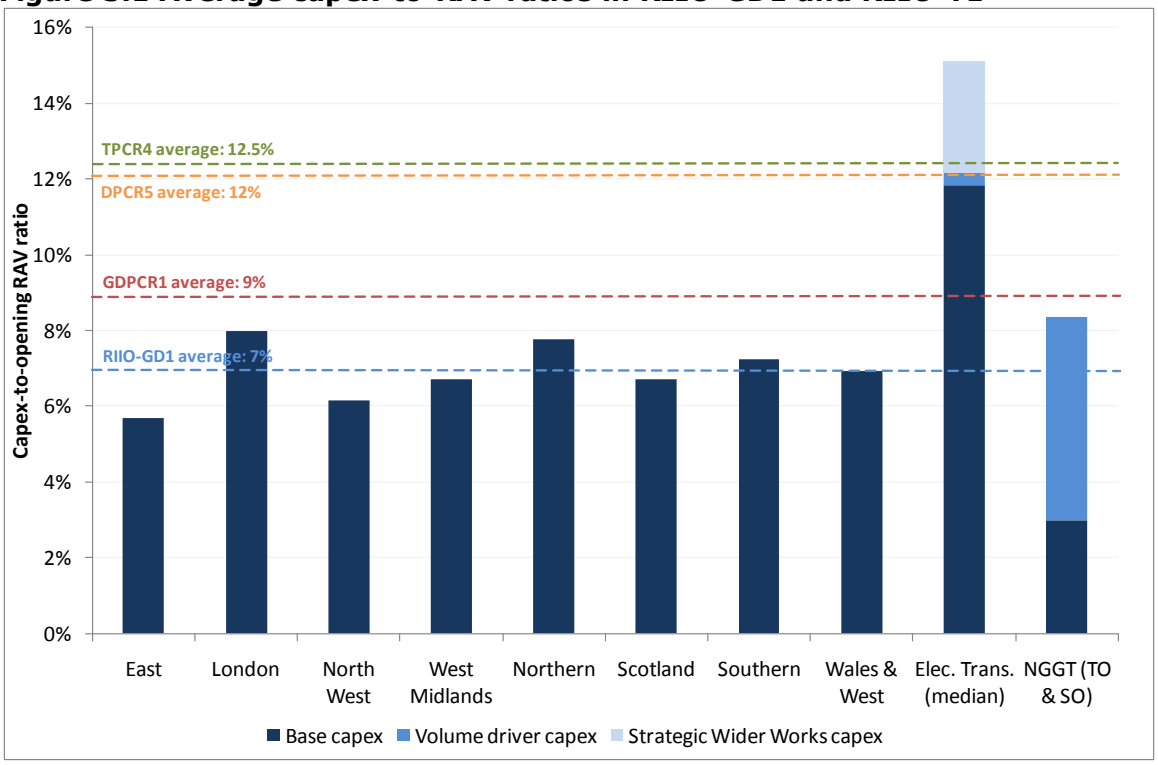
- Base totex – both unit cost and volume allowances are set ex ante, which potentially exposes the network company to variations in both, particularly in the latter years of the price control period (although this depends on the regulatory arrangements and in many cases base totex has a degree of volume protection).
- Volume drivers – the unit cost allowances for these are set at the beginning of the price control period, with the amount of investment set when the needs case is identified.
- Within-period determinations – for these allowances (such as Strategic Wider Works in transmission), both unit costs and volumes are set when the needs case is identified during the price control period. As such, they reduce both unit cost and volume risk.

3.14. All three types of allowances described above would be subject to the same incentive rate being applied to any over- or underspend.

3.15. In figure 3.1 we plot each GDN's average capex-to-RAV ratios for RIIO-GD1. We compare these to the corresponding ratios for gas transmission and electricity transmission (median) in RIIO-T1, and the average ratios in the current price controls. For transmission, we split each ratio into base, volume driver and Strategic Wider Works capex. These are based on the 'Best View' of investment that informed our Initial Proposals.

3.16. For the GDNs, figure 3.1 shows that the level of investment (relative to RAV) is largely similar across the eight network companies, is somewhat lower than for NGGT and GDPCR1, and is substantially lower than for electricity transmission and DPCR5. From a scale of investment perspective, we conclude that the GDNs face a similar level of risk to each other, and lower than current and past comparators.

Figure 3.1 Average capex-to-RAV ratios in RIIO-GD1 and RIIO-T1



Note: For consistency, we treat repex as 100 per cent capex in this chart.

Incentive rate

3.17. Another factor in assessing the companies' exposure to cash flow risk is the extent to which the regulatory framework allows variations in expenditure to be reflected in the network companies' charges. (As mentioned earlier this affects our view of the appropriate levels of notional gearing but does not materially affect our view of the appropriate cost of equity). In RIIO-GD1, this is done through the 'incentive rate' which determines each company's exposure to any over- or underspend in totex. As highlighted by the RoRE analysis (see figure 4.2), performance against the totex allowances has the largest impact on overall return on equity. The higher the incentive rate, the larger the share of any over- or underspend that is borne by the company and, therefore, the greater its exposure to cash flow risk. In GDPCR1 we had set separate incentive rates for capex and repex (33-36 per cent, depending on the company) and for opex (100 per cent).

3.18. In order to compare the relative exposure to over- and underspend between the two price control periods, we calculate the effective incentive rate in GDPCR1, by applying the above incentive rates to the proportions of allowed capex and opex, respectively. The results are summarised in table 3.2 and are compared to the totex incentive rates in RIIO-GD1.

3.19. For all GDNs, the pre-tax incentive rate in RIIO-GD1 is broadly the same as the effective incentive rate in GDPCR1. We are proposing to set the incentive rate in

RIIO-GD1 on a post-tax basis, but as most GDNs did not pay tax in GDPCR1 this change does not have a material impact on the relative position.

Table 3.2 Comparison of incentive rates in GDPCR1 and RIIO-GD1

(Allowances in £m in 2005-6 prices)	East	London	North West	West Midlands	Northern	Scotland	Southern	Wales and West
Allowed opex (incentive rate: 100%)	507	380	413	313	395	327	589	395
Allowed capex and repex (incentive rate: 33-36%)*	715	689	618	448	638	452	1,123	652
Effective incentive rate in GDPCR1	62.5%	58.8%	61.7%	62.3%	60.5%	61.1%	56.0%	58.3%
Incentive rate in RIIO-GD1	62.6%	61.3%	63.0%	63.5%	63.8%	63.2%	63.2%	61.8%

* The incentive rate is 36% for all GDNs except for Scotland, Southern, and Wales and West, for whom the incentive rate is 33%

Length of price control period

3.20. A common argument of the network companies is that eight-year price controls expose the companies to greater cash flow risk than the previous five-year price controls. This is because the assumptions that underpin the price control decision are more likely to be incorrect further into the future (ie in price control years six to eight). For example, Oxera estimated that the impact of the move to eight-year price control periods was to increase Scotia's cost of equity by 87 basis points (bps). Wales and West estimated the impact to increase its asset beta by up to five bps.

3.21. It is true that the assumptions which underpin a price control are more likely to prove incorrect further into the future. This is something that we acknowledged during the RPI-X@20 review when we decided to adopt longer price control periods.[12] However, we also noted that this risk can be effectively mitigated through appropriate uncertainty mechanisms. Indeed, the network companies were given the opportunity to propose such mechanisms as part of their business plans. The longer period also provides management with more time and scope to take mitigating actions.

3.22. The key uncertainty mechanism is the indexation of allowed revenues to RPI, which protects the network companies from economy-wide inflation (ie it removes a systematic risk). This would be further helped by the mid-period review of outputs, which aims to ensure that allowances are appropriately targeted. Additionally, the introduction of annually updated cost of debt assumption (based on a trailing average index) would protect the network companies from the potential impact of future interest rate movements.

3.23. The annual iteration process – described in detail in Chapter 7 – means that changes in the network companies' performance (ie over- or underspend and performance on incentives) or circumstances (ie provision of new allowances, updates of pension deficit funding, corporate tax rates and the cost of debt assumption) will be reflected in allowed revenues more quickly. We consider that this reduces cash flow risk relative to the approach in current price controls. For example,

[12] RIIO: a new way to regulate energy networks – final decision http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/Decision%20doc.pdf

it prevents any revenue shortfall relating to efficient overspend from accumulating until the next price control period.

3.24. Lastly, longer price control periods reduce the frequency at which investors are exposed to 'reset risk' of regulatory determinations. Since the parameters of the regulatory settlement – ie the financial package and incentive rate on over- or underspend – are 'locked in' for a longer period, both the network companies and their investors can focus on operations and delivery.

3.25. Overall, we consider that the move to eight-year price control period has a neutral impact on cash flow risk.

Summary

3.26. We have focused on three factors that influence cash flow risk above. There are several other factors that may affect risk to a lesser extent. We provide a brief overview of each in the table 3.3, which brings together our views on relative risk for the GDNs.

3.27. Overall, our assessment is that the GDNs face similar cash flow risk to each other. We consider that they face lower risk than in GDPCR1 or any of the gas and electricity transmission companies. We consider that their risk level is similar or somewhat lower than in DPCR5.

Table 3.3 Summary of relative risk assessment for RIIO-GD1

	The GDNs' risk relative to:			
	Electricity transmission	**NGGT**	**GDPCR1**	**DPCR5**
Scale of investment	See detail above. **Lower**	See detail above. **Similar**	See detail above. **Lower**	See detail above. **Lower**
Complexity of investment	GDNs' investment plan consists of predominantly small and medium projects. **Lower**	GDNs' investment plan consists of predominantly small and medium projects. **Lower**	Repex is the main driver of investment, so RIIO-GD1 plan is broadly a continuation of the GDPCR1 investment. **Similar**	Technical issues broadly comparable. **Similar**
Repex policy	Not applicable.	Not applicable.	Risk-based approach more consistent with GDNs' asset management approach. **Lower**	Not applicable.
Incentive rate	TOs' incentive rate ranges from 48-50%. **Higher**	NGGT's incentive rate is 44%. **Higher**	See detail above. **Higher**	DNOs' incentive rate ranges from 45-51%. **Higher**
Totex approach	Same approach used. **Similar**	Same approach used. **Similar**	Under totex approach, expenditure choice not driven by regulatory treatment. **Lower**	Same approach used, but broader definition of totex. **Lower**
Focus on outputs	Same approach used. **Similar**	Same approach used. **Similar**	Delivery options not driven by regulatory treatment. **Lower**	Same approach used. **Similar**
Uncertainty mechanisms	Not directly comparable	Not directly comparable	Additional mechanisms introduced in RIIO-GD1. **Lower**	Not directly comparable
Incentives	Overall strength of incentives comparable. **Similar**	Overall strength of incentives comparable. **Similar**	Additional incentives introduced in RIIO-GD1. **Higher**	Fewer incentive in DPCR5, but wider RoRE range. **Lower**
Pension costs	Same approach used. **Similar**	Same approach used. **Similar**	Incremental deficit subject to totex incentive rate. **Higher**	Same approach used. **Similar**
Cost of debt approach	Same approach used. **Similar**	Same approach used. **Similar**	Annual update provides better match to notional company cost. **Lower**	Annual update provides better match to notional company cost. **Lower**
Length of price control	Eight-year price controls. **Similar**	Eight-year price controls. **Similar**	See detail above. **Similar**	See detail above. **Similar**
Timing of revenue adjustments	Same approach used. **Similar**	Same approach used. **Similar**	Changes reflected in allowances more quickly via annual iteration process. **Lower**	Changes reflected in allowances more quickly via annual iteration process. **Lower**
Overall	**Lower**	**Slightly lower**	**Lower**	**Similar or slightly lower**

Notional gearing

3.28. There is no simple rule by which differences in cash flow risk can be converted into different allowed return levels. Ultimately, there is a need to balance different pieces of evidence. In addition to considering cash flow risk, when determining the appropriate notional gearing level we also take into account:

- Financeability – both in terms of the gearing ratios that the major credit rating agencies consider are consistent with ratings in the BBB-A range, and in terms of the impact on other credit ratios.
- Return on regulatory equity (RoRE) range – in RIIO price controls our intention is that companies should be able to achieve an upside return on (notional) equity in the low double-digits, and be exposed to a downside return at or below the cost of debt. Since we calculate RoRE at the notional level, increasing notional gearing widens the RoRE range and vice versa. We use RoRE as a key sense-check on our financial parameters. If we selected the right levels of cost of equity and notional gearing for the cash flow risk of the businesses, we should find that the RoRE ranges are comparable (see chapter 4).
- Regulatory precedent – this consideration takes account of the fact that stakeholders value consistent regulatory determinations.
- Network companies' actual gearing – this provides an indication of the proportion of debt that network companies have been able to carry while maintaining investment grade credit ratings.

3.29. Our Initial Proposals are to apply notional gearing of 65 per cent to all eight GDNs. Together with the rest of our Initial Proposals, this results in achieving financeability parameters and RoRE ranges that are consistent with our targets. This is further discussed in Chapter 4. This level is also consistent with the range of determinations in our current price controls (60-65 per cent) and with recent regulatory precedents, as identified by FTI Consulting. Furthermore, this level is consistent with the gearing levels that we observe for the network companies that we regulate, as well as for comparators such as water companies.

Cost of equity

3.30. Our approach to determining the appropriate cost of equity assumption consists of two stages:

- using the Capital Asset Pricing Model (CAPM), taking into account the relative risk analysis
- sense-checking against alternative approaches, information from transactions and regulatory precedent.

3.31. We asked FTI Consulting to review whether the range of 6.0-7.2 per cent that we put out in the Strategy Document remained appropriate in light of information since then. FTI Consulting reviewed the CAPM parameters, recent regulatory precedents, and alternative approaches to estimating the cost of equity – namely the Dividend Growth Model (DGM) and Residual Income Model (RIM).

3.32. FTI Consulting noted that estimates based on current values of the risk-free rate and equity risk premium have moved significantly in the past year owing to financial and economic uncertainty. For example, the estimate of the risk-free rate based on a 10-year average of the yield on index-linked gilts has fallen to 1.4 per cent, compared to 1.7 per cent at the time of the Strategy Document. In contrast, the Bank of England's estimate of the current equity risk premium has spiked to around 7 per cent, compared to around 5 per cent at the time of the Strategy Document.

3.33. Having also reviewed alternative approaches, FTI Consulting concludes that the range of 6.0-7.2 per cent remains appropriate for the cost of equity. However, it highlights the need to continue to observe market trends ahead of Final Proposals, on account of the significant variability in current estimates of the CAPM components.

3.34. In the Strategy Document we also noted the divergence of short-term and long-term estimates of the CAPM components. We considered it appropriate to focus on longer-term estimates, particularly as we are setting controls for an eight-year period. Our experience from previous price controls shows that looking beyond short-term volatility is a prudent approach to take when setting the cost of equity assumption for network companies. Therefore, we have based our proposals on the assumption of 2.0 per cent risk-free rate and 5.25 per cent equity risk premium.

3.35. Cash flow risk affects our cost of equity assumption via the beta component of CAPM. There are two aspects to this: higher cash flow risk indicates a higher asset beta; but since we set lower notional gearing for network companies with higher cash flow risk, the overall impact on the equity beta is somewhat mitigated. Table 3.4 summarises our cost of equity assumptions for RIIO-GD1 in terms of the CAPM components.

Table 3.4 Cost of equity assumptions for the GDNs

	GDNs	Strategy Document range	GDPCR1
Risk-free rate	2.0%	1.7-2.0%	2.5%
Equity risk premium	5.25%	4.75-5.5%	4.75%
Equity beta	0.9	0.9-0.95	1.0
Cost of equity	**6.7%**	**6.0-7.2%**	**7.25%**

3.36. Taken together, the allowed return proposals for RIIO-GD1 of 6.7 per cent cost of equity and 65 per cent notional gearing reflect our assessment that GDNs face lower cash flow risk than the gas and electricity transmission companies, and lower cash flow risk than in GDPCR1. They reflect the fact that we assess the cash flow risk faced by GDNs to be similar or slightly lower than in DPCR5.

Cost of debt

3.37. Our proposal is to retain the approach of annually updating the cost of debt estimate based on the simple 10-year trailing average of the iBoxx indices. We do not propose to make any adjustments to the index, although we propose to make a minor technical change to the way the index is calculated, which is described in Appendix 2.

3.38. The remainder of this section addresses some of the issues raised by the network companies with regard to the cost of debt approach set out in our Strategy Document. Specifically, we cover concerns regarding embedded debt costs, recent bonds issuances, the inflation risk premium, the potential impact of Basel III and Solvency II regulations and the possibility that using an index to estimate the cost of debt would result in network companies' returns becoming more procyclical. The report by FTI Consulting further considers some of the issues raised by the network companies.

Embedded debt costs

3.39. Some network companies have argued that current low interest rates (and the prospect that they remain low) could result in efficiently-incurred past debt not being fully funded as the value of the cost of debt index declines faster than their average cost of debt falls. Northern Gas and Wales & West separately proposed to address this via caps and collars around the index.

3.40. As FTI Consulting notes, the potential for embedded and new debt costs to diverge is an issue that crops up in every price control review. In that regard, any risk that the network companies may be exposed to is not a function of the proposal to update the cost of debt assumption annually based on an index.

3.41. The extent to which the indexed allowance would reflect a network company's actual cost of debt would depend on a number of factors, including:

- the timing and frequency of debt issued by the company
- how efficiently the debt was incurred (ie the coupon on the bonds)
- the duration of the company's debt (while the index completely "refreshes" itself every ten years, network companies' typical debt maturity ranges from around ten to 20 years), and
- the credit rating of the company (a company rated in the A category would typically issue debt more cheaply than a company rated in the BBB category).

3.42. In the Strategy Document, we modelled the index and stylised "actual" costs for three types of network companies, under a scenario of rapidly rising interest rates (this reflected market forward rates at the time). We found that the index provides adequate allowance for the network companies, with the potential exception of a company that raises substantial amounts of debt at a time when interest rates rise sharply. We, therefore, included a provision for companies in such exceptional circumstances to propose alternative weighting of the index.

3.43. In developing these proposals, we further tested the robustness of the cost of debt index. We modelled the index and each company's actual cost of debt from its regulatory reporting pack for 2010-11 under several scenarios in which the market cost of debt rises, falls or remains constant.[13] We find that the 10-year simple trailing average provides adequate coverage for debt costs in RIIO-GD1. Therefore, we do not propose to make any adjustment for embedded debt costs.

Recent bond issuances

3.44. Some network companies have argued that their bonds issued during 2010 and 2011 have not outperformed the iBoxx index to the same extent as in the past and, at times, have been issued at a premium to the index. This, it has been argued, suggests that past outperformance of the index were a temporary phenomenon, rather than a reflection of network companies' inherent low risk (the so-called 'halo effect'). In order to ensure that efficiently-incurred debt is fully funded, including any additional costs not captured in the index (eg issuance and liquidity fees), some network companies have argued that an uplift should be applied to the index.

3.45. As discussed in the Strategy Document, we consider that there are characteristics of network companies and the regulatory regime within which they operate that have allowed them to raise debt more cheaply than other companies of similar credit ratings (ie to outperform the cost of debt index). These characteristics include a guaranteed revenue stream as part of the price control process, asset value underpinned by the RAV, effectively no competitive pressure, no volume risk on revenues, and operating within a well-established regulatory regime. We consider that these characteristics are innate to regulated network companies.

3.46. We do note, however, that bonds issued by the network companies since the start of 2010 have outperformed the iBoxx index by 9 bps, compared to 55 bps over the history of the iBoxx index. This narrowing of the level of outperformance may be a temporary issue and a function of the financial crisis, rather than any structural change in the risk profile of the network companies. We intend to keep this matter under review until Final Proposals, but at present there does not seem to be sufficient evidence to change our approach. We note, as mentioned above, that the approach covers debt costs over RIIO-GD1 under a range of scenarios.

Inflation risk premium

3.47. Some network companies have argued that the 'breakeven inflation' figures we intend to use to deflate the iBoxx index contain an inflation risk premium and, therefore, overstate expected inflation. As a result, the estimated cost of debt would be lower than it should be.

[13] We do not present the analysis here as it includes commercially confidential information about licensees' financing costs.

3.48. Our analysis in the Strategy Document addressed this issue and found no evidence that using breakeven inflation systematically overstates investors' long-term inflation expectations. This is reflected by the fact that, when averaged since the Bank of England began targeting inflation (May 1997), the 10-year breakeven inflation figure we use matches the sum of the Bank's inflation target (two per cent) and the difference between RPI inflation and CPI inflation. The network companies have not refuted this point of our argument. We, therefore, do not propose to make any changes to the index.

Potential impact of Basel III and Solvency II[14]

3.49. Some network companies have argued that Basel III regulations will increase the cost of liquidity facilities and that Solvency II requirements would reduce insurance companies' demand for long-dated utility bonds and, therefore, increase the cost of debt. They have argued that these costs would not be captured in the iBoxx index.

3.50. We note that the outcome and timing of application of Basel III and Solvency II are still uncertain. Any impact these regulations might have is not a function of the decision to update the cost of debt estimate annually based on the iBoxx index. Indeed, if the market cost of debt rises as a result these regulations, it will be captured in the index. In any case, as FTI Consulting notes, network companies should also be able to access funds from sources that are not affected by these regulations, such as dedicated liquidity facilities.

Procyclicality of returns

3.51. Some network companies argued that, since interest rates tend to rise in accordance with general economic growth, our introduction of annually updated cost of debt assumption would result in network companies' revenues rising in tandem with better overall economic performance. This means that their returns would become more procyclical, raising their equity beta and, therefore, the cost of equity.

3.52. We consider that there are two counter-arguments to the above:

- First, as FTI Consulting explains, the relationship between corporate debt costs and economic growth is not as clear-cut as suggested by the network companies, and nor is the relationship between share prices and economic growth.
- Second, the cost of debt makes up around ten per cent of network companies' allowed revenue – their enterprise value is still underpinned by guaranteed revenue, cost recovery, little volume risk and the RAV – all of which will continue to make them a strong countercyclical hedge.

3.53. We, therefore, do not propose to make any changes.

[14] Basel III and Solvency II are proposed sets of regulations on the capital requirements of banks and insurers, respectively. While they are not under Ofgem's control, they are expected to come into effect during RIIO-T1 and may have an impact on network companies' financial activities.

Financial policies

Allowance for the cost of issuing notional new equity

3.54. Our Strategy Document included a proposal to set an ex ante allowance of five percent of any notional new equity needed to achieve financeability for companies who are undergoing significant RAV growth during RIIO-T1 and GD1. In their business plans, all eight GDNs argued that their relatively stable RAV level do not require raising notional new equity.

3.55. The need to issue notional new equity is a function of both credit ratios and the levels of investment. The RIIO principles state that (for a notional company) significant levels of investment should be funded by both debt and equity. We, therefore, formulate our modelling rule to assume a notional equity issuance whenever modelled gearing reaches a threshold above the notional gearing level. This modelling assumption is robust to any over- or underspend.

3.56. For the GDNs, the threshold is five per cent above notional gearing (ie 70 per cent). Our proposals result in no notional new equity being issued by any of the GDNs.

Notional dividend modelling assumption

3.57. Our financial model assumes that a fixed per cent of the notional equity share of RAV is paid as dividend in any given year. Our modelling assumption of a fixed dividend rate being paid out, and notional equity being issued to address any financeability needs, is a simplification used in order to reduce the level of complexity in the model. In reality, a company is faced every year with a range of choices as to how it may achieve financeability. These options include the possibilities of reducing dividends, or maintaining dividends and raising new equity. Our modelling assumption is for the notional company only and should not be considered to represent our suggestion on the approach that network companies should adopt.

3.58. In line with previous price controls and SHETL and SPTL's fast-track proposals, we have assumed a five per cent dividend payout rate. The five per cent dividend assumption is for the notional company and should not be considered to represent our view on the payout rate that network companies should adopt.

Index-linked debt modelling assumption

3.59. In line with our past practice, for example in GDPCR1, and the business plan submissions of most of the network companies, we have assumed that 25 per cent of each network company's debt is index-linked. This assumption is consistent with the extent to which we observe network companies relying on index-linked debt to fund their activities, as shown in table 3.5. The table shows the proportion of index-linked

debt in network companies' overall debt as per the latest regulatory reporting packs, which cover the regulatory year of 2010-11. We will update our analysis once the reporting packs for 2011-12 are received in August.

3.60. The modelling assumption regarding index-linked debt does not affect the allowed revenue for the companies, but does impact our financeability assessment owing to the way credit rating agencies treat the inflation accretion (ie the index-linked portion) on index-linked debt. This is discussed further in Chapter 4.

Table 3.5 Network companies' index-linked debt share

Values for 2010-11	**Proportion of Licencee Index-Linked Debt***
NGET	46.1%
NGG	37.5%
SHETL	0%
SPTL	0%
Transmission	**38.8%**
Northern Gas	0%
Scotia - Scotland	32.8%
Scotia - Southern	21.6%
Wales & West	5.9%
Gas Distribution	**15.1%**
Total	***31.2%***

* Excludes floating rate debt and debt denominated in currencies other than GBP and EUR

4. Financeability, transition and return on regulatory equity

Chapter Summary

This chapter summarises our financeability assessment of the package for the GDNs. It outlines the transitional arrangements on repex capitalisation, which we consider are appropriate to achieve financeability. The chapter also provides an overview of the range of return on regulatory equity (RoRE) that we estimate to be available to the notional companies as a result of these proposals.

Questions

4. Do you agree with our approach to transition of the repex capitalisation rate from 50 per cent to 100 per cent in seven equal annual steps ('stepped approach')?

Our approach to assessing financeability

4.1. Our principal objective is to protect the interests of existing and future consumers. In carrying out its functions in accordance with the principal objective, the Authority must also have regard to the need to secure that licence holders are able to finance the activities which are the subject of obligations on them. This means that, in setting price controls, we should have regard to the ability of efficient network companies to secure financing in a timely way and at a reasonable cost in order to facilitate the delivery of their regulatory obligations. This is also in the interests of consumers. However, it is important that the regulatory framework does not provide excessive returns, reward inefficiency or 'bail-out' a company that has encountered financial distress as a result of its own behaviour.

4.2. Our Strategy Document outlines our approach to assessing financeability in RIIO-T1 and GD1. Our financeability assessment looks at six credit ratios (FFO/interest,[15] PMICR,[16] FFO/net debt, RCF/net debt,[17] RCF/capex, and Net debt/RAV) and two equity ratios (Regulated equity/EBITDA,[18] and Regulated equity/Regulated earnings[19]). The credit ratios are compared to the target ranges that the three major credit rating agencies have told us are consistent with credit ratings in the BBB-A range.

[15] FFO is 'funds from operations'. FFO/interest is often referred to as 'FFO interest cover'.
[16] PMICR stands for 'post-maintenance interest cover ratio'. It is a derivative of FFO/interest and, therefore, is often also referred to as the 'adjusted interest cover ratio'.
[17] RCF is 'retained cash flow'.
[18] EBITDA is 'earnings before interest, tax, depreciation and amortisation'.
[19] We use 'profit after tax' as the measure of regulated earnings for this ratio.

4.3. Credit ratios typically account for around a third of the assessment carried out by rating agencies. Similarly, our assessment also considers the broader context for the notional company. Our financeability assessment, therefore, is not predicated on an expectation that the notional companies would be able to achieve all target ratios in all years of the price control period.

4.4. There are three technical points about our financeability assessment that are worth outlining:

- Index-linked debt – in line with the approach taken by the major credit rating agencies, the inflation accretion component is excluded from the FFO/interest and PMICR ratios, but is included in all other credit ratios.
- Fast and slow money – we give most emphasis to the credit ratios based on the regulatory treatment of totex (rather than statutory allocation of capex and opex), with the capitalised proportion treated as 'slow money' and the expensed proportion treated as 'fast money'. Again, this approach is consistent with those of the major credit rating agencies.
- PMICR – we apply the principle of 'economic capital maintenance expenditure' when calculating the PMICR.[20] This uses regulatory, rather statutory, depreciation to calculate the ratio. The approach is also consistent with rating agency Moody's approach to the adjusted interest cover ratio.

4.5. We test the financeability of each GDN on an efficient company basis assuming that it spends in line with our proposed view of efficient costs, as well as assuming no further rewards or penalties under the incentive mechanisms. Additionally, we stress-test the analysis with assumptions about:

- over- and underspend on totex
- the future profile of the cost of debt index
- the proportion of debt that is index-linked

Our proposals are robust to all of the above.

Financeability and the need for transition

4.6. Our Strategy Document noted the potential financeability implications of the decision to capitalise repex fully. While we noted that the concurrent decision to use a front-loaded depreciation profile on all assets constructed from 2002 onward would mitigate some of the cash flow implications, we acknowledged that some GDNs may require additional transition in order to ensure financeability. The network companies were able to propose such transitional arrangements on the capitalisation rate applied to repex. The GDNs adopted different approaches to transition, as discussed in more detail in Chapter 2.

[20] For an explanation see the report 'Post-Maintenance Interest Coverage Ratios for UK Regulated Utilities' by Fitch Ratings.

4.7. Our financeability assessment indicated that some transition was appropriate for all GDNs in order to ensure credit ratios that are consistent with a 'comfortable investment grade' rating (ie in the BBB-A range). The Strategy Document stated our preference for a flat capitalisation rate over the price control period. Our financeability assessment, however, indicated that credit ratios could be improved with stepped transition, while at the same time slightly lowering the charges that would be borne by consumers and reducing charging volatility. This is because some GDNs' investment programmes are front-loaded.

4.8. Therefore, our proposal is to apply a fixed capitalisation rate across RIIO-GD1 for totex excluding repex, and to overlay that with a stepped transition for repex capitalisation. The transition will be from 50 per cent capitalisation in 2013-14 to 100 per cent in 2020-21, in equal incremental steps of 7.1 per cent per year. We are interested in stakeholders' views on our proposed approach.

4.9. Our proposal is robust to the financeability stress tests listed above.

Return on regulatory equity (RoRE)

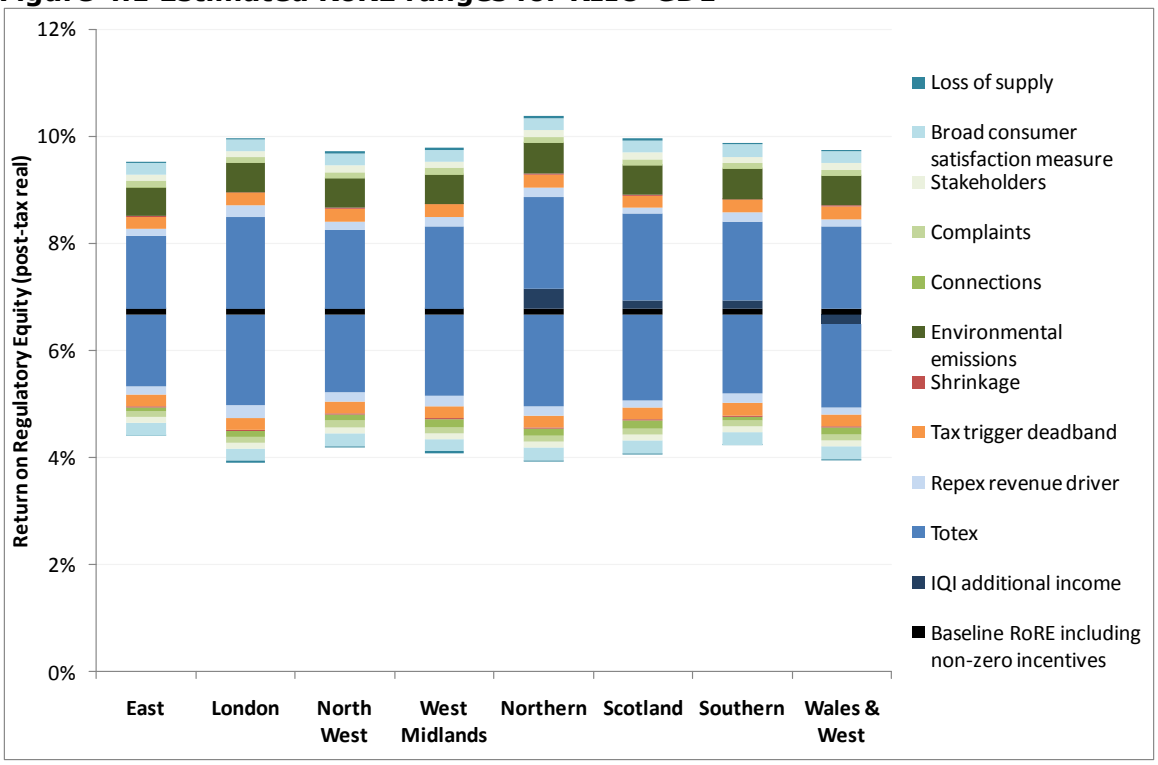
4.10. We use RoRE analysis to estimate the financial benefits – as measured by the return on (notional) proportion of the RAV that is financed by equity – that are available to the network companies in RIIO-GD1 from outperforming the price control assumptions. By the same token, RoRE analysis allows us to assess the financial penalties for underperforming the price control assumptions.

4.11. We regard an appropriately calibrated price control package as one in which RoRE upside (ie the reward available for the best-performing companies) provides the potential for double-digit returns on (notional) equity, and RoRE downside (ie the penalties that would apply to the worst-performing companies) is at or below the cost of debt. As noted in Chapter 3, RoRE analysis is one of the factors used in identifying the appropriate notional gearing level.

4.12. However, we acknowledge that, for a given price control package, a balance needs to be struck between the impact of notional gearing on the RoRE range and on financeability. Higher notional gearing means that returns are spread over a smaller equity 'wedge', which widens the RoRE range. At the same time, higher notional gearing tightens credit ratios. When it comes to our decision on notional gearing, our duty to have regard to the need that network companies are able to finance their activities means that we attribute more weight to financeability analysis than to RoRE.

4.13. Figure 4.1 presents our estimates of upside and downside potential returns for each of the GDNs. We have developed these estimates using a mixture of historical performance and projected plausible values (including caps and collars, where applicable). We stress that these are estimated, rather than capped, RoRE ranges. The figure is based on our cost of equity and notional gearing proposals, as per Chapter 3.

Figure 4.1 Estimated RoRE ranges for RIIO-GD1

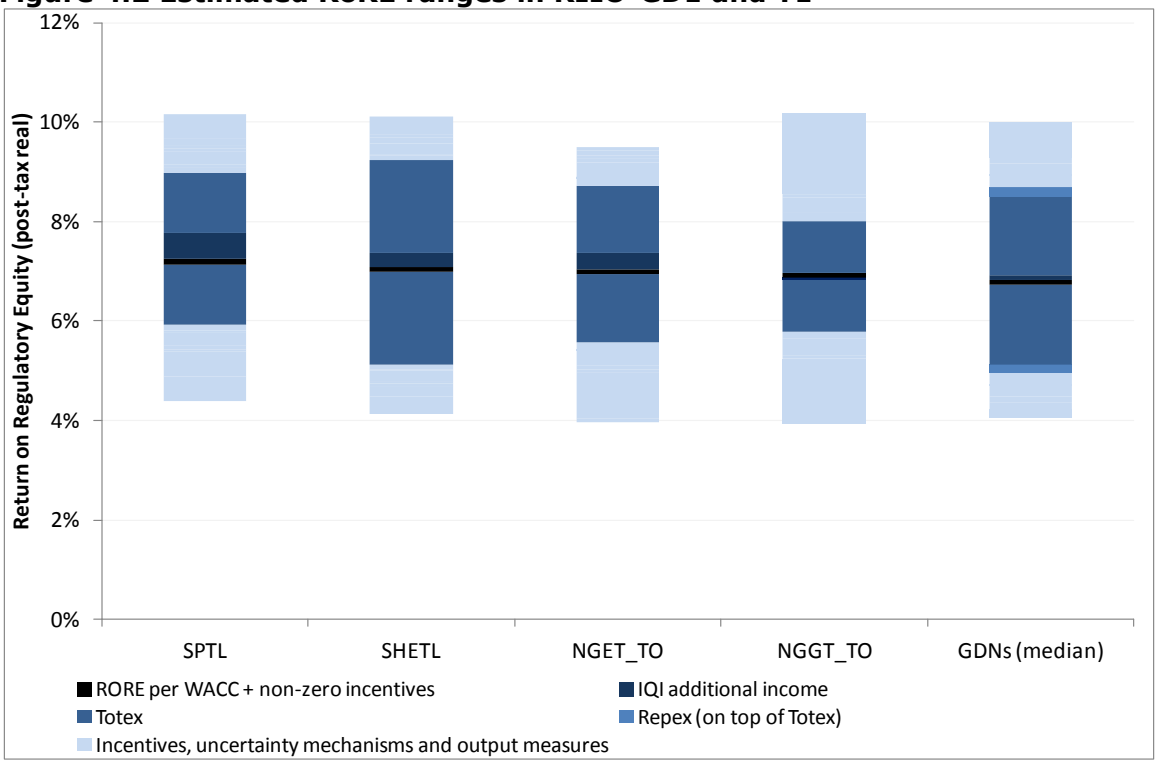


4.14. Our assessment shows that, over the whole of RIIO-GD1, GDNs could achieve double-digit returns for exceptional performance. With regard to the downside, we show that returns are unlikely to fall as low as our current estimate of the cost of debt. The assessment over the entire price control period, however, masks a degree of annual variability in potential returns. Typically, a wider range of returns is available in the early years. Overall, we think that figure 4.1 represents an appropriately calibrated package.

4.15. Figure 4.2 compares the median RoRE range for the GDNs with those of the gas and electricity transmission companies in RIIO-T1. For simplicity of presentation and comparison between companies we have grouped all incentives, output measures and uncertainty mechanisms together.

4.16. The overall range of RoRE is broadly similar across sectors. This acts as a sense-check that our differential notional gearing and cost of equity assumptions appropriately reflect differences in cash flow volatility across the sectors.

Figure 4.2 Estimated RoRE ranges in RIIO-GD1 and T1



5. Pensions

Chapter Summary

This chapter sets out our Initial Proposals for pension deficit funding, Pension Protection Fund levies and pension scheme administration costs; and the true up of GDPCR1 and the one year 2007-08 control, pension costs.

Questions

5. Do you agree that companies must demonstrate a robust approach as to how their de-risking strategies, especially if aggressive, are protecting future scheme funding and that they should clearly demonstrate the benefits that they expect to flow to consumers?
6. Do you agree that the costs of contingent assets may be allowed if considered to be in consumers interests?
7. Do you agree with the thresholds for pension scheme administration costs and Pension Protection Fund levies set out in table 5.1?

5.1. We have modelled pension deficit funding and ancillary costs and set allowances based on the methodology in Appendix 6 of our Strategy Document, Financial Issues supplementary annex, and our pension principles in Appendix 7 with some limited exceptions, which are described in this chapter. The pension allowances are summarised in table 5.1 below and the remainder of this chapter sets out the basis for these allowances.

Table 5.1 Annual pension deficit funding and true up

(£m 09-10)	**EOE**	**London**	**NW**	**WM**	**NGN**	**Scot**	**South**	**WWU**
Forecast scheme established deficit	1,377	1,377	1,377	1,377	72	214	214	81
Regulatory fraction	2.2%	1.2%	1.4%	1.0%	100.0%	40.0%	60.0%	100.0%
Licensee's proportion	30.5	16.7	19.5	14.0	72.0	85.8	128.7	80.6
Annual allowances	**EOE**	**London**	**NW**	**WM**	**NGN**	**Scot**	**South**	**WWU**
Established deficit	2.5	1.3	1.6	1.1	5.8	6.9	10.3	6.5
Scheme administration costs	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4
Pension Protection Fund Levy	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.4
Average true up adjustments	0.0	(0.2)	(0.0)	(0.1)	(0.4)	2.7	1.3	1.5
Total annual allowance	**2.6**	**1.2**	**1.6**	**1.1**	**6.1**	**10.1**	**12.3**	**8.7**
RIIO-GD1 true up and reset threshold	**EOE**	**London**	**NW**	**WM**	**NGN**	**Scot**	**South**	**WWU**
Scheme administration costs	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pension Protection Fund Levy	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

The forecast established deficit is that for the scheme to which the business is a sponsoring employer and before application of the cut-off date forecast regulatory fraction.

Defined benefit schemes – allowed costs

5.2. As set out in our 22 June 2010 Pensions paper[21], we are committed to funding the efficient repair costs of the established deficits of network operators defined

[21] Price Control Treatment of Pension Costs final

benefit (DB) pension schemes; for GDNs this is the deficit as at 31 March 2013 (the "cut-off date"). We no longer set specific allowances for ongoing pension service costs of their DB or defined contribution (DC) schemes; or the incremental deficit related to service of active members of the DB schemes after– the cut-off date as these costs are treated as part of totex. We have set specific allowances for the legacy DB scheme established deficits, Pension Protection Fund (PPF) levies and DB scheme administration costs. Such allowances are subject to being efficient. These have been the subject of a review[22] of all network operators' pension costs undertaken for us by the Government Actuary's Department ('GAD'). That review has informed setting allowances for RIIO-GD1 and the true-up of GDPCR1 costs.

5.3. The methodology for the attribution between established and incremental deficit, which will apply to all energy network operators, is currently under discussion with network operators. Subject to the ongoing discussions, we expect to publish the final methodology before Final Proposals. This methodology will replace the regulatory fraction from the first reset of pensions in RIIO-GD1. (The regulatory fraction is the current approach used to assess the proportion of a scheme that is funded through regulatory revenues – see paragraph 5.14 below)

5.4. We have based the allowances on the latest available updated valuations as at 31 March 2012 in accordance with our pension principles. These valuations apply the same actuarial assumptions that were adopted in the previous completed full triennial valuation, updated only for changes in asset values and market conditions. We do this because: (i) later full valuations are not yet available or are, as yet, incomplete and will not have been cleared by the Pension Regulator; and (ii) the underlying actuarial assumptions are those which have been subject to review by our consultants, GAD. We recognise that all GDNs schemes, except NGGD's, are currently undertaking full valuations to either 31 December 2011 or 31 March 2012. These are unlikely to be completed before Final Proposals and we want all GDNs to be on a similar basis. We require a further update, for changes in asset values and market conditions, as at 30 June 2012 to inform setting allowances at Final Proposals.

5.5. We acknowledge that the accuracy of updated valuations may be significantly different from that shown by a full valuation particularly in volatile markets. In addition they do not reflect member movements, actual salary or pension increases and changes in key assumptions, e.g. longevity. We deal with these retrospectively by subsequently resetting and truing up allowances based on the latest full valuations at the reset points in RIIO-GD1.

5.6. We spread the established deficits over our 15-year notional funding period and apply a funding rate of return derived the range of benchmarked pre-retirement real discount rates as applied in network companies' valuations. The rate for RIIO-GD1 is 2.6 per cent up to the first reset. We will review and if appropriate reset this rate at each subsequent triennial review on a rolling basis.

[22] Government Actuary's Department *Review of energy network operators' pension costs* http://www.ofgem.gov.uk/Networks/Documents1/GAD%20peniosn%20Report-16052012.pdf

5.7. Our pension principles[23] set out our approach to both innovative investment strategies, used to manage scheme's liabilities and hedge risks, and contingent assets. Where these are used we will examine each on its merits. The costs of contingent assets may be allowed if considered to be in consumers interests.

Deficit values, de-risking strategies and current market conditions

5.8. In the current volatile market conditions, companies are experiencing a significant increase in their updated deficits (used to set allowances) compared to recent years and their last full valuation. Current scheme valuations are materially affected by the value and negative real returns currently experienced for gilts.

5.9. Companies consider that de-risking should protect the funding position of their scheme, in that it limits the downside. However, it may significantly reduce the upside from future out-performance.

5.10. Whilst a move to de-risking these mature closed schemes is expected, we will need to keep under review the increase in the burden for consumers. This is expected to arise from a combination of the speed and timing of de-risking; use of conservative valuation and asset return assumptions (particularly of gilts which are currently showing negative real returns) and increasing longevity. We expect companies to demonstrate how their de-risking strategies are protecting future scheme funding and the benefits that they expect to flow to consumers.

Determining the established deficit

5.11. The valuations used to inform setting allowances pre-date the cut-off date for determining the established deficits. We propose to finalise the actual amounts during the RIIO-GD1 price control period and true up at the first reset as noted above.

5.12. Where there is a difference in the size of a network company's deficit between the valuations used to set allowances and that shown by either a full triennial valuation at 31 March 2013, or updated valuations at that date (for those with an earlier full valuation date), these will be adjusted in revenue allowances at the first reset within the RIIO-GD1 price controls. We propose that true up adjustments will be NPV neutral. We will spread the true up of this difference over the remaining years of the 15-year notional funding period.

Resetting allowances during the RIIO price control period

5.13. We propose to undertake a reasonableness review in mid-2014, true up and reset revenues from 1 April 2015 and every three years thereafter. That review will also determine GDNs' established deficit based on updated or full valuations at 31

[23] Pension principle 1 paragraphs 1.15 to 1.16

March 2013. We do not intend to true up at the end of the each price control period unless this coincides with the rolling three year true up and reset cycle. We will conduct all future reasonableness reviews across all energy network operators, as with the recently completed review.

Regulatory fraction

5.14. The regulatory fraction represents the element of a licensee's established pension deficit that relates solely to the activity of the distribution business (i.e. the licensed business) and which, ultimately, under our pension principles, is funded by customers. For GDNs, we include the pension deficit funding costs of employees engaged in the metering business. We do this, as there are no dedicated metering employees within those licensees; and, this activity is performed by staff primarily employed in the gas transportation business.

5.15. The regulatory fractions applied are shown in table 5.1. We have not yet completed our review of NGGD's regulatory fractions and they may be subject to amendment once that is concluded. For these Initial Proposals we have applied the GDPCR1 regulatory fractions.

5.16. The future treatment of the NGUKPS legacy deficit relating to the NTS[24] is subject to review and the options are set out in chapter 7.

Treatment of PPF levies and scheme administration costs

5.17. The Pension Protection Fund (PPF) have introduced a new framework for setting their levies in 2012-13. All DB schemes were required to submit data to the PPF under this framework on 31 March 2012. The PPF will review the levies and may amend them every three years. This new basis may increase, or decrease, the quantum of each schemes annual levy as the PPF adopts a risk based approach applied to each scheme's assets and liabilities and the likelihood of failure.

5.18. We set a separate allowance for both PPF levies and pension scheme administration costs. We propose to true up and reset these allowances every three years, subject to a review for efficiency and a de minimis threshold, below which there will be no true up adjustment or reset in RIIO-GD1. These are set at £1m p.a. per GDN (table 5.1).

True up adjustments for GDPCR1 and one-year price control

5.19. The true up adjustments in table 5.1 include the adjustments, which are all treated as fast money, for the one-year price control 2007-08 which we published in

[24] This includes the liability for the pensioners and deferred pensioners of the GDN businesses sold by NGG in 2005. GDNs only took on the active members and set up new schemes for these.

September 2009[25]. The true up is only for ongoing defined benefit pension service costs and deficit recovery payments. We do not true up GDPCR1 defined contribution costs, PPF levies or scheme administration unless the latter were included in the DB scheme's allowed contribution rates.

5.20. We have based these adjustments on actual expenditure and a forecast for 2011-12 and 2012-13. In the event that actual costs in 2011-12 and 2012-13 turn out to be materially different to the estimate, we would expect to alter revenue either at Final proposals, where data is available, or the next reset of allowances in RIIO-GD1. We spread these adjustments equally over the 8 years of RIIO-GD1. The adjustments are NPV neutral applying the vanilla WACC applicable for GDPCR1 to 31 March 2013 and then applying the vanilla WACC for RIIO-GD1 for revenues spread over RIIO-GD1.

[25] Open letter to all Gas Distribution Network Operators regarding pensions in the one year price control http://www.ofgem.gov.uk/Networks/GasDistr/GDPCR7-13/Documents1/Open%20letter%20to%20GDNs%20re%20pensions%20090909.pdf

6. Taxation

Chapter Summary

This section sets out the key factors and methodology applied to the financial modelling of taxation for initial proposals.

Questions

8. Do you agree with our amended treatment for modelling the cash flows of corporation tax payments?
9. Do you agree with amending the timing of the revenue adjustment for tax clawback to be annually in line with the annual iteration process?
10. Do you agree with our treatment of expenditure for tax modelling?

6.1. We have modelled tax and set allowances based on the methodology in our Strategy Document with limited exceptions which are explained below. This methodology has been incorporated in the financial handbook for the annual iteration process. Table 6.1 below sets out the allowances for tax for each licensee and the remainder of this chapter sets out our approach to modelling the tax allowance.

Table 6.1 Tax Allowance Summary Table

(£m 2009-10)	2014	2015	2016	2017	2018	2019	2020	2021
East of England	17.2	14.3	37.2	34.6	35.1	35.1	35.2	36.4
London	0.0	0.0	30.3	27.0	26.1	25.6	24.6	25.2
North West	10.5	7.7	26.1	24.6	25.3	25.2	25.3	26.0
West Midlands	6.7	5.4	21.3	19.4	19.8	19.6	19.4	19.9
NGN	6.1	5.7	24.5	22.7	21.1	21.6	22.2	23.4
Scotland GN	0.0	0.0	14.3	16.5	17.0	17.2	17.0	18.5
Southern GN	0.0	0.0	41.4	41.1	41.7	41.9	41.4	42.9
WWU	0.0	0.0	0.0	13.4	22.3	21.5	20.7	20.1

6.2. Each regulated gas distribution business is modelled for price control purposes as a standalone entity. All expenditure is treated as if it is incurred directly by the gas distribution businesses.

Applicable tax regime

6.3. We apply the UK standard tax rules that have passed into legislation by the time of the Initial Proposals and include the proposed future reduction in corporation tax (CT) rates for 2013-14. These Initial Proposals reflect the current legislative position.

6.4. We model tax under UK GAAP in 2013-14 and 2014-15; and, based on the ASB's revised draft proposals for the future financial reporting in the UK[26]. Broadly,

[26] Draft FRS 100 'Application of Financial Reporting Requirements' and FRS 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' published January 2012.

this means that companies would follow, from 1 April 2015, either EU-IFRS (if they had already adopted it for the statutory accounts); or the "new" UK GAAP. The latter is based on IFRS for SMEs with certain exceptions and retains some existing UK GAAP treatment. The tax treatment of opex, capex and repex follow the existing UK GAAP treatment for 2013-15 and from 1 April 2015 the proposed accounting frameworks. Any deferral of the new UK accounting frameworks that affects the tax assumptions we have made would be a tax trigger event.

6.5. We have reviewed the proposed new UK GAAP for guidance on the treatment of connections and related contributions in financial statements and compared it with EU-IFRS. The latter would require a material change in the financial reporting and consequential tax treatment of the contributions. The former has no guidance on this specific issue. We propose to retain the treatment under existing UK GAAP in modelling tax allowances, this will also apply to repex contributions which will be offset against costs in considering the amount allocable to capital allowance pools. Any changes to UK GAAP affecting the tax treatment will be a tax trigger event but changes in the tax burden associated with adoption of full EU-IFRS will not be a tax trigger event as adoption is within GDNs control. However, it should be noted that in Special Condition E18 paragraph 4(b) contributions (i.e. connection charge receipts) are defined as excluded services. As such these should not be funded through base revenues so any change to the accounting treatment will be for companies to bear. We will continue to review this treatment and changes to ASB's proposals for Final Proposals.

6.6. All capital allowances are assumed to be claimed at rates in line with current legislation and, except for deferred revenue, as claimed in the year the expenditure is incurred. Deferred revenue is allowed as tax deductible applying the licensees accounting basis.

Regulatory tax losses

6.7. In line with our treatment in GDPCR1, where tax losses arise, we do not give affected network companies negative tax allowances. We log up the tax value of any tax losses as calculated on a regulatory basis and deduct them from forecast tax allowances when the timing differences that led to the loss reverse.

6.8. In computing regulatory tax losses, we ignore and reverse any surrender by a network company of losses to a group company (i.e. both group and consortium relief), so that customers benefit from the entity's losses as they reverse.

6.9. In any year that a company does not have a tax liability, we add the amount of any clawback to its regulatory loss position – see Table 6.2 for opening tax loss position.

Table 6.2 Opening regulatory tax loss position

(£m nominal)	East of England	London	North West	West Midlands	NGN	Scotland GN	Southern GN	WWU
Amount carried forward including any untilised clawback	0.0	21.7	0.0	0.0	0.0	74.7	79.5	200.4

Modelling of capital allowances

6.10. We use three main capital allowance pools – General, Special Rate and Deferred Revenue - and the relevant rates of annual writing down allowance. These reflect the relevant legislation currently in place. We also allow for expenditure that is identified as non-qualifying for capital allowances, principally easements, being interests in land, and buildings following the abolition of the Industrial Buildings Allowance regime.

6.11. All other expenditure not qualifying for capital allowances nor treated as non-qualifying will attract a 100 per cent deduction.

6.12. The annual allowance for deferred revenue follows the statutory depreciation rates and is 2.22 per cent straight-line, based on the average economic lives of all GDN's relevant assets at 45 years.

6.13. We have applied a generic attribution of expenditure to capital allowance pools and revenue, for the purpose of modelling tax allowances, for Initial Proposals. This is in accordance with our proposals in our Strategy Document. We have derived the attributions from GDNs aggregate expenditure reported in their business plans against each CA pool, revenue and non qualifying expenditure. We use these generic attributions, fixed for the whole of RIIO-GD1 as the setting of revenue allowances is a regulatory construct. We recognise that these will not necessarily follow the nuances of individual businesses actual expenditure or allocations. They are the broad expectation of how the various categories of expenditure are attributed and, with the exception of non-operational capex, follow historical trends.

6.14. We have grouped expenditure into five categories to match those used in the model for attribution to capital allowance pools:

(a) Load related (LRE) capex (being LTS / NTS / PRS / Storage / Connections (ie the elements of work funded through networks charges) / governors

(b) Non-load related capex including Non-Operational Capex (being Other Plant & equipment; Land & Buildings; IT)

(c) Mains and services replacement (repex)

(d) Contributions (i.e. connection charge receipts)

(e) Network operating expenditure – 100 per cent revenue deduction. For simplicity, this includes demolition costs, which would normally be treated as capex in the Special Rate pool, as they are not considered material and are not easily identifiable in our setting of allowances.

These generic percentage attributions remain fixed throughout RIIO-GD1, as follows:

Table 6.3 Attribution of expenditure to capital allowance pools

	General pool	Special rate pool	Deferred revenue	Non-qualifying	Revenue
LRE	0.22%	98.36%	0.00%	1.42%	0.00%
NLRE & Non-op capex	83.39%	6.56%	0.00%	10.05%	0.00%
Mains replacement (repex) pre 1 April 2015	0.00%	0.00%	0.00%	0.00%	100.00%
Mains replacement (repex) post 31 March 2015	0.00%	0.00%	100.00%	0.00%	0.00%

6.15. Contributions (i.e. connection charge receipts) in accordance with Special Condition E18 paragraph 4(b) should be treated as excluded services. As such these are not funded through base demand revenues; and to eliminate them for tax purposes, we offset these against connection costs using the same allocations as for load related expenditure. This matches the treatment of totex for attributing net costs to RAV. We treat the provision of connections as being two separate performance obligations (PO) under the relevant accounting standards. The first where the licence obliges the licensee to provide the initial 10 metres in the public highway of any new connection to domestic premises free of charge; and the second as any amount over that initial distance for which the connectee pays. The first are capex and funded by base revenues and, the second, which are excluded services, are not funded from base revenues.

6.16. We treat the fuel poor connection incentive which obliges GDNs to provide free connections to qualifying customers as costs funded by base revenues and include these in setting the tax allowances and in totex.

6.17. All pension costs will be treated as 100 per cent deductible in the year of expenditure. We propose to ignore pension spreading under the irregular payment rules as we consider this a minor timing issue. We will apply it when we true up the established pension deficit funding at each reset in RIIO-GD1.

Capital allowance pool balances

6.18. We have used the GDNs forecast closing capital allowance pool balances. We will review these and their derivation from their latest submitted tax returns (as rolled forward to 31 March 2013), as these will be received after IP is published, for Final Proposals. Closing capital allowance pool balances are reset at the end of each price control in line with the companies CT600 corporation tax returns and supporting computations.

Modelling cash flows of corporation tax (CT) payments

6.19. GDNs are regarded as large companies under tax legislation and are required to pay their tax liabilities for any given year in instalments commencing in the current year. In the Strategy paper we assumed that half the annual charge to CT is paid in the regulatory year, and half in the subsequent year, and ignore subventions for surrendered tax losses. We indicated that we would take no account of additional payments (or receipts) from settling earlier years' tax liabilities. The spreading of CT payments over two years is a useful refinement when tax liabilities are uneven from year to year. In introducing the annual iteration process, such a refinement is an unnecessary complication when liabilities are being retrospectively revised. We propose to model tax liabilities and resultant cash flows as being incurred in the year they arise.

Tax treatment of incentives

6.20. Incentive revenues which do not form part of base revenues and penalties are on a pre-tax basis (i.e. it is not intended that they give rise to further revenues in respect of the tax charge in the revenues). Incentives that are included within totex, which in general relate to investment, are included within the financial model which calculates appropriate tax allowances.

Treatment of excluded services

6.21. No allowance or relief for tax is given in respect of excluded services costs and revenues, including sole use connections. In setting allowances, we deduct costs attributable to these services from the cost base of providing use of system services.

Tax clawback for excess gearing

6.22. We apply an ex post adjustment to claw back from licensees the tax benefit they obtain from gearing above our notional gearing level.

6.23. The clawback operates when in any year: (i) actual gearing exceeds notional gearing and (ii) interest costs exceed those modelled at the relevant price control. In the case where both of these conditions are satisfied, we will clawback the tax benefit which results from the difference between actual and modelled interest costs in that year. The specific methodology is set out in our open letter of 31 July 2009[27] and is now part of the annual iteration process. Where notional interest varies from that initially modelled at Final Proposals, due to changes to the cost of debt index, we will consider this when undertaking these trigger tests.

[27] Tax gearing clawback letter July 2009
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=49&refer=Networks

6.24. We have calculated the adjustments arising from the two previous price controls, using actual data where available together with that forecast in network companies business plans. If the actual amounts differ from the forecasts used we reserve the right to make a further adjustment. We will update for 2011-12 actual data before Final Proposals. Where a business has regulatory tax loss the clawback adjustment is added to the tax loss carried forward.

Table 6.4 Tax clawback adjustments at 1 April 2014

(£m nominal)	EOE	London	NW	WM	NGN	Scot	South	WWU
Adjusted in revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added to regulatory losses	0.0	0.0	0.0	0.0	0.0	4.7	5.2	44.1

6.25. The clawback for GDPCR is being recovered in the first year of GD1 as the amount is small. We now propose that, consistent with the annual iteration process in RIIO price controls, to update and reset the clawback every year. Our previous proposal was to update every three years with a spreading of any clawback over the following three years.

Tax trigger

6.26. We have introduced a tax trigger mechanism as set out in our Strategy Document. The detailed methodology is set out in the financial handbook (see chapter 7). We have calibrated the deadband as the greater of a one per cent change in the rate of mainstream CT and a change of 0.33 per cent in base demand revenues. These amounts are fixed throughout the price control for each licensee and are not revised through the operation of the annual iteration process. As the amounts are broadly constant over the period we may set a fixed amount per annum per GDN for the period. The amounts for each GDN are as follows:

Table 6.5 Tax trigger deadband

for year ending 31 March (09/10 prices - £m)	2014	2015	2016	2017	2018	2019	2020	2021
East of England	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.7
London	1.1	1.1	1.4	1.2	1.2	1.2	1.1	1.1
North West	1.2	1.1	1.2	1.1	1.1	1.1	1.2	1.2
West Midlands	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9
NGN	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Scotland GN	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.9
Southern GN	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0
WWU	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

Business rates

6.27. We treat business rates[28] as non-controllable operating costs (together with our licence fee). The Valuation Office Agency in England and Wales and the Scottish Assessors Association in Scotland completed a revaluation of the assets of the transmission and gas distribution networks in 2010 for the purposes of determining

[28] The largest element of business rates is network rates which we treat as a non-controllable cost. Other elements of business rates are included in totex

rates until 2015. During RIIO-GD1, further revaluations in 2015 and 2020 are expected. Each network company is able to influence the valuation that is given and hence the business rates that it will incur in the future.

6.28. For the purposes of setting the base price control revenue allowances, business rates are those from the 2010 valuations. For the period from 1 April 2013 up to 31 March 2015, we are retaining the previous GDPCR1 mechanism that enabled companies to recover the difference between the actual and assumed costs. After that time, we will switch-off this mechanism pending the outcome of the next revaluation exercise. Where network companies can demonstrate that they have taken reasonable actions to minimise the rating valuations, we will then reactivate the cost adjustment mechanism for the remainder of the period, (i.e. from 1 April 2015 up to 31 March 2021). We will deal with the 2020 valuation on similar basis.

6.29. We consider that this approach provides incentives on network companies to minimise costs, whilst recognising that once the rating valuations are concluded the costs that they incur will be non-controllable.

7. Allowed revenues, annual iteration and financial handbook

Chapter Summary

This chapter provides a summary of allowed revenues and associated issues, sets out the process for annually updating allowed revenues to reflect companies' actual performance and revised allowances (for example as volume driven allowances change). It also outlines the information held in the financial model handbook.

Questions

11. Do you have any views on the calculations and layout in the financial model?
12. Should the financial model also capture, for presentational purposes only, the revenue from all incentive schemes?
13. We have set out three options to deal with the issues relating to SIU and legacy pensions arrangements. Which option do you prefer?

Allowed revenues

7.1. The allowed revenues for the GDNs under our Initial Proposals are summarised in table 7.1 and set out in detail in appendix 1. Further detail, underpinning these values can be found in the financial model[29] which has also been published today. Actual allowed revenues could turn out to be higher or lower depending on the utilisation made of the uncertainty mechanisms. It should be noted that these allowed revenues do not include the Network Innovation Allowance or any view on the level of revenue that may be allowed under the various incentive mechanisms.

7.2. However, the expected change in allowed revenues by GDN should be treated with caution. The 2012/2013 allowed revenue assumptions (on which the forecast changes for RIIO-GD1 are based) are GDNs' forecast allowed revenues and subject to change.

[29] RIIO-GD1 Price Control Financial Model
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/GD1%20Financial%20model.pdf

Table 7.1 Summary of allowed revenues

Allowed Revenue for year ending 31 March (09/10 prices - £m)	2013	2014	2015	2016	2017	2018	2019	2020	2021
Industry	**2,834**	**2,973**	**2,901**	**2,965**	**2,927**	**2,927**	**2,931**	**2,927**	**2,944**
Yr on Yr Change		4.9%	-2.4%	2.2%	-1.3%	0.0%	0.1%	-0.1%	0.6%
Cumulative Change		4.9%	2.4%	4.6%	3.3%	3.3%	3.4%	3.3%	3.9%
NGGD (total)	**1,428**	**1,470**	**1,421**	**1,455**	**1,414**	**1,413**	**1,412**	**1,410**	**1,415**
Yr on Yr Change		2.9%	-3.3%	2.4%	-2.8%	-0.1%	-0.1%	-0.1%	0.3%
Cumulative Change		2.9%	-0.5%	1.9%	-1.0%	-1.1%	-1.2%	-1.3%	-0.9%
East	482	501	484	490	477	477	476	476	478
Yr on Yr Change		4.0%	-3.4%	1.1%	-2.6%	-0.1%	-0.1%	-0.1%	0.5%
Cumulative Change		4.0%	0.5%	1.6%	-1.0%	-1.1%	-1.2%	-1.3%	-0.8%
London	326	329	322	345	333	329	329	326	328
Yr on Yr Change		0.9%	-2.2%	7.3%	-3.6%	-1.1%	-0.2%	-0.7%	0.4%
Cumulative Change		0.9%	-1.4%	5.9%	2.1%	1.0%	0.8%	0.1%	0.5%
North West	347	366	348	351	344	345	344	345	346
Yr on Yr Change		5.4%	-4.9%	1.0%	-2.1%	0.3%	-0.2%	0.2%	0.3%
Cumulative Change		5.4%	0.2%	1.2%	-0.9%	-0.6%	-0.8%	-0.6%	-0.3%
West Midlands	273	274	267	269	260	262	262	263	263
Yr on Yr Change		0.3%	-2.6%	1.0%	-3.4%	0.6%	0.1%	0.2%	0.1%
Cumulative Change		0.3%	-2.2%	-1.3%	-4.6%	-4.0%	-3.9%	-3.7%	-3.6%
NGN	**335**	**337**	**339**	**347**	**341**	**333**	**335**	**338**	**343**
Yr on Yr Change		0.7%	0.4%	2.5%	-1.7%	-2.4%	0.7%	0.9%	1.5%
Cumulative Change		0.7%	1.2%	3.7%	1.9%	-0.6%	0.1%	1.0%	2.4%
SGN (total)	**751**	**841**	**819**	**841**	**839**	**845**	**851**	**848**	**859**
Yr on Yr Change		12.0%	-2.6%	2.7%	-0.2%	0.7%	0.7%	-0.4%	1.3%
Cumulative Change		12.0%	9.1%	12.0%	11.8%	12.5%	13.3%	12.9%	14.3%
Scotland	228	251	247	251	253	256	258	257	262
Yr on Yr Change		10.2%	-1.7%	1.4%	0.8%	1.3%	1.0%	-0.6%	2.1%
Cumulative Change		10.2%	8.4%	9.9%	10.8%	12.2%	13.3%	12.6%	14.9%
Southern	523	590	572	591	587	589	593	591	597
Yr on Yr Change		12.8%	-3.0%	3.3%	-0.7%	0.4%	0.6%	-0.3%	1.0%
Cumulative Change		12.8%	9.4%	13.0%	12.2%	12.7%	13.4%	13.0%	14.1%
WWU	**320**	**324**	**322**	**321**	**332**	**336**	**333**	**331**	**327**
Yr on Yr Change		1.4%	-0.8%	-0.2%	3.4%	1.1%	-1.0%	-0.4%	-1.3%
Cumulative Change		1.4%	0.6%	0.4%	3.8%	5.0%	3.9%	3.5%	2.2%

SIUs and NTS pension deficit

7.3. The allowed revenues for the respective controls set out in this document include the costs of operating the Statutory Independent Undertakings (SIUs) although these are currently recovered through the gas transmission price control. They do not include NTS pension deficit costs associated with the legacy GDN employees, which are included in GDN charges. These arrangements are subject to review as set out below and may affect the level of revenue at Final Proposals.

7.4. The SIUs comprise eight communities and around 10,000 customers connected to independent gas networks, i.e. not directly connected to the national gas network. The SIUs are supplied by either Liquefied Natural Gas (LNG) or Liquefied Petroleum Gas (LPG). SGN operates/owns the largest SIUs, comprising around 7,700 households in remote areas in Scotland: Cambletown, Stornoway, Wick, Thurso (all supplied with LNG), and Stornoway (LPG).[30]

7.5. The supply to these customers is subsidised by GB consumers in accordance with a Direction from the Secretary of State in 2008. Consumers within the SIUs pay the average GB transportation charge. The remaining costs are recovered from GB customers through NTS charges. In 2012/13, the cross-subsidy (i.e. recovered from all GB customers) was equal to £17.1m for SGN's SIUs.[31] Over RIIO-GD1, SGN envisage that the costs of supply will be around £8million p.a. over RIIO-GD1 equivalent to an annual per household subsidy within the SIUs of around £1000.[32] The costs associated with the supply of SIUs located outside SGNs licensed area were £0.1 million in 2012/13.[33]

7.6. The direction will lapse with the end of the current price control on 31 March 2013. DECC has informed us that it expects to continue with the current subsidy arrangements.

7.7. NTS pension deficit charges relating to its former GDN employees who retired prior to DN sales are recovered through GDN charges. The transfer is in line with uniform network code (UNC) modification 127 introduced in 2007.[34] The charges recovered by NTS through GDNs price controls are currently £37 m (2009/10 prices).

7.8. As set out in the RIIO-GD1: Initial Proposals – Supporting document - Outputs, incentives and innovation, it is unclear whether the current funding arrangements (i.e. which involve GT-GT transfers) for SIUs and NTS Pension Deficits are permissible under the provisions of the Gas Act 1986[35].

Options for consultation

7.9. To continue with the current funding arrangements for the SIUs and NTS Pension deficit charges, requires an amendment of the Gas Act 1986. The

[30] The SIUs comprise: Cambletown; Stornoway; Wick; Thurso (all SGN); Colden (NGN); Llanfyllin; and, Llanwrtyd Wells (both WWU). Source: GDN responses to DECC questionnaire on SIU subsidy; 2007.
[31] As set out in C26. Source: http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/120206_GM_noticetomodify.pdf
[32] SGN, BPDT Table 2.1 Op Cost Matrix
[33] The subsidy arrangements are given effect through Special Condition C26 of NGGT's gas transporter licence (C26: Gas Conveyed to Independent Systems). See: http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/120206_GM_noticetomodify.pdf
[34] See: http://www.gasgovernance.co.uk/sites/default/files/0127OfgemDecisionLetter.pdf
[35] This issue in relation to GT-GT transfers has arisen because before 2004 there was only one gas transportation company (National Grid Gas) and therefore no need to consider the transfer of monies between several transportation companies. When the gas grid was split between different gas transportation companies, the Gas Act 1986 was amended, but ambiguity remains.

amendment is required to resolve any legislative uncertainty in relation to whether gas transporter to gas transporter transfers are permissible. However, as discussed in the Finance and Uncertainty Supporting Document, the required amendment is unlikely to be in place by April 2013.

7.10. We have identified the following options for funding SIUs/ NTS pension issue for the RIIO-GD1/T1 control.

- Option 1: do not allow GDNs and NTS to recover their respective costs in relation to SIUs and pension deficits in 2013/14 but allow them to recover such costs including the additional financing costs through GT-GT transfers (as now) once legislation is in place. In short, we would log-up the respective costs.
- Option 2: allow GDNs and NTS to recover their respective costs through their own controls (i.e. no socialisation) for 2013/14, and then revert back to existing arrangements once legislation is in place.
- Option 3: As per option 2, but do not revert back to current arrangements for NTS once legislation is in place (we would revert back to the current arrangements for SIUs assuming DECC issued a direction requiring us to do so.)

7.11. In relation to the options, we note that option 1 would potentially present financeability concerns in relation to SGN and NGGTs controls if they did not recover such costs in the year incurred. Option 2 would address any financeability concerns but would result in charging volatility (as we would be unwinding current arrangements, and then reintroducing them). Option 3 would help minimise charging volatility in respect of NTS pension deficit arrangements; but would be inconsistent with UNC Modification 127 (once legislation were introduced to facilitate transfers).

7.12. We will adopt the preferred funding arrangement once we have considered respondents' views in relation to the options set out.

Annual iteration process

7.13. As part of the RIIO price controls, we are introducing an annual iteration process to update base revenues during the price control for a defined set of variable parameters. In general, the items we are adjusting during the price control are items we would normally true-up at the end of the price control or are additional variable items that are introduced as part of RIIO, such as the cost of debt indexation mechanism.

7.14. To facilitate the annual iteration process we have established a number of new draft financial licence conditions, and developed a new financial model supported by a financial handbook. We are publishing today, supporting these Initial Proposals, a separate consultation[36] on the draft licence conditions for RIIO, including the new

[36] Supporting Document 3: Draft RIIO-GD1 Gas Distribution licence changes http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/Supporting%20Document%203%20Draft%20RIIOGD1%20Gas%20Distribution%20licence%20changes.pdf

finance licence conditions and the draft financial handbook[37]. We propose that both the financial handbook and the financial model will be incorporated in the licence and subject to clear change control procedures. The financial model currently accommodates both gas and electricity transmission and gas distribution. However, as the model will become an integral part of the licence it will be split into three separate models – gas transmission, electricity transmission and gas distribution – in advance of Final Proposals.

7.15. The proposed new financial licence conditions and draft financial handbook set out the process in more detail (although at this stage the handbook is not complete). In summary, the proposed annual iteration process would update base revenues by updating a defined set of variable values. The update process would largely operate between the end of July, when we receive the annual reporting pack from network operators and the end of November when the Authority would issue directions to amend the following formula year's base revenues within the maximum allowed revenue formula.

7.16. The changes to be made fall into four main categories:

- Changes arising from the true-up of previous price controls, e.g. capex roller and pensions true-up
- Changes arising from changes to specified financial adjustments, i.e. cost of debt indexation, tax, pensions
- Totex incentive mechanism
- Changes made to totex allowances either through revenue or volume drivers, new allowances being granted, or amendments being made to existing allowances.

7.17. Provisional values for the adjustments from previous price controls would already be included in base revenues at Final Proposals. However, GDPCR1 will not have concluded and therefore new actual data will become available in 2013-14 and hence further adjustments may be necessary.

7.18. The specified financial adjustments cover cost of debt indexation, pensions and tax. We have set out previously that we intend to introduce a debt indexation mechanism to annually update the allowance for the cost of debt. As described earlier in chapter 3, we propose to use data as at the last working day in October each year to update the allowance for the following formula year. The financial handbook (chapter 5) sets out the mechanism and provides a link to the model used to calculate the cost of debt allowance value.

7.19. We set out in our Strategy Document that we would reset the pensions deficit allowances and, subject to a threshold, the PPF levy and scheme administration costs every three years. The dates of the update are set out in chapter 5 and we will use

[37] RIIO-GD1 price control financial handbook
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/RIIO%20GD1%20Price%20Control%20Financial%20Handbook.pdf

the triennial valuations by licensees subject to the reasonableness test that is part of our pensions approach to rest allowances. We will also true-up for any efficient variation between allowances and actual costs, subject to the reasonableness review. Chapter 3 in the financial handbook provides further details on the process that will be followed.

7.20. There are also two potential tax adjustments. The tax trigger mechanism and the tax gearing clawback. Chapter 4 in the financial handbook provides further details.

7.21. The totex incentive mechanism calculates changes to revenues arising from any under or over expenditure against the totex allowance using the relevant incentive strength for each network operator. In our Strategy Document we stated that we intended to make the incentive work more quickly than in previous controls so that management were suitably motivated. This would use the actual expenditure reported to us in July each year and adjust revenues in the following formula year. The incentive mechanism will therefore operate with a two-year lag.

7.22. We propose a number of incentive schemes that would update totex allowances. These will be set out in the financial handbook and would have their own review process as set out in their respective licence conditions. The proposed annual iteration process would implement all the adjustments to allowances approved during the year by adjusting the variable values in the financial model, following the issue of directions by the Authority, which will calculate changes to base revenue.

Price Control Financial Model ('PCFM')

7.23. As mentioned above, we have developed a new financial model for these controls that will form part of the licence as one of the financial instruments. The model is currently in a combined form for electricity and gas transmission and gas distribution but will be separated ahead of Final Proposals. In addition to calculating the base revenues set at Final Proposals, the model would also be used in the annual iteration process described above to calculate revised base revenues reflecting changes to the specified list of variable values.

7.24. For the purposes of the annual iteration process the model only needs to reflect changes to base revenues. Revenues associated with non-totex incentives such as customer satisfaction do not need to form part of the financial model. However, we can see the merit in the model capturing all revenues for completeness and propose for presentation purposes only to include the revenues from all incentive schemes in due course. We would welcome any views on this subject.

7.25. Under our proposals, the financial model, while providing the detail of the calculation of base revenue, is subservient to both the licence and the financial handbook. The model should therefore update base revenues only for those variables that are permitted by the licence and in accordance with the approach set out in the financial handbook.

7.26. The variables that are currently envisaged are set out in the input worksheet in the model in the "blue box" known as the Variable Values Table. Other assumptions which are used in the calculations within the financial model are shown in yellow shaded boxes on the input worksheet and would be set at Final Proposals. A change control process is set out in the financial handbook chapters 1 and 2 which set out the formal process for changing the functionality within the model should this be necessary during the RIIO period.

7.27. The financial model has been published alongside this consultation and has a re-designed layout in order to make it easier to follow and we welcome any views on the model and its basis of calculations, some of which incorporate amendments from earlier financial models.

8. Dealing with uncertainty

Chapter Summary

This chapter sets out our initial proposals in relation to uncertainty mechanisms for RIIO-GD1.

Questions

14. *Repex*: Do you agree with our proposed revenue driver for repex? Should the revenue driver apply to all above risk threshold tier 2 mains, or be limited to additional mains that breach the threshold during price control period, i.e. those where no funding was provided ex ante?
15. *IRM*: Do you agree with our proposal to restrict the reopeners for the roll-out of innovation to the two standard reopener windows, i.e. 2015-16 and 2018-19?
16. *Lane rental*: Do you consider a revenue trigger to be appropriate for allowing additional costs related to the implementation of lane rental schemes? In particular do you have any views on how the unit cost of such schemes should be set?
17. *Mid-period review*: Do you agree with our proposed approach to addressing any changes to the HSE iron mains policy at the mid-period review, and our proposed reopener in relation to asset integrity? Do you agree with our proposed materiality threshold of 5 per cent in relation to assessing changes to costs?
18. *Smart meters*: Do you agree with our proposed approach to dealing with uncertain smart metering costs?
19. *MOBs*: Do you consider a volume driver to be appropriate for increasing revenues as a result of work conducted on assets related to medium rise multiple occupancy buildings (MOBs)? Please provide evidence of the unit cost assumptions that should be used?
20. *Connecting large loads*: Do you consider that there should be reopener in relation to connecting large loads?
21. *Xoserve*: Do you agree with our proposals in relation to uncertainty with respect to Xoserve's costs?
22. *Scottish independent undertakings (SIUs)*: Do you agree with our proposals not to introduce an uncertainty mechanism in relation to supply to SIUs?:
23. Do you have any other comments in relation to our approach to uncertainty mechanisms?

March 2011 Strategy Document

8.1. In our Strategy Document we proposed a number of uncertainty mechanisms for RIIO-GD1. We also outlined the information the GDNs would need to provide in their business plans in support of requests for additional or alternative mechanisms.

8.2. We set out our policy for a reopener mechanism to deal with uncertainty relating to street works, enhanced physical site security and changes to the connection charging boundary for Distributed Generation. In particular we noted that these would be restricted to two reopener windows (with any changes to allowed

revenues impacting in 2016 and 2019) and that costs would have to breach a materiality threshold. We proposed a materiality threshold of 1 per cent of allowed expenditure in year one of the price control, following the application of the efficiency incentive rate derived from the IQI assessment process. We also outlined that the innovation roll-out mechanism would also be subject to the same materiality threshold, but we proposed there would be an annual opportunity for GDNs to apply for revenue adjustments.

8.3. We also highlighted the uncertainty around potential further changes to the HSE iron mains replacement programme and stated that we would address any changes in policy at the mid-period review. We outlined that there would be a reopener mechanism for asset integrity expenditure if GDNs could demonstrate that they had robust information on asset health and criticality and that this new information would have a material impact on expenditure. We also stated our intention to undertake a review of the fuel poor networks extension scheme to accommodate the implications of DECC's heat strategy.

8.4. We outlined our proposed approach to inflation indexation using a 12-month average of the Retail Prices Index (RPI) and retention of current policy to pass through licence fees and business rates. We also decided on a number of mechanisms relating to financial instruments, e.g. cost of debt indexation, tax claw-back, and pension deficit repair. We decided to retain the existing disapplication arrangements in the event that a network company experiences deteriorating financial health.

8.5. We also set out the basis for the mid-period review of outputs. We noted that the mid-period review would be tightly restricted to:

- Changes to outputs that can be justified by clear changes in government policy.
- The introduction of new outputs that are needed to meet the needs of consumers and other network users.

1.6. In addition, we provided an indicative timetable for the review, with a start date of January 2016. We stated that any changes to output requirements as a result of the mid-period review would impact allowed revenues from April 2017 (the start of the fifth year of RIIO-GD1).

GDNs' business plans

8.6. In general, the GDNs supported the uncertainty mechanisms that we set out in our Strategy Document. However, they proposed some revisions to the mechanisms, as well as a number of new mechanisms.

Smart meter roll-out

8.7. All GDNs, in their business plans, set out proposals to deal with the uncertainty related to the impact of the supplier led smart meter roll-out

programme.[38] The business plans submitted by the GDNs in November 2011 highlighted that there was no consensus view on what the potential impact would be. This led to a wide variation in the magnitude of forecast costs over the eight years of RIIO-GD1. We requested, as part of our initial assessment document, that the GDNs provide further industry supported evidence in their second business plans to support their assumptions on workload and cost.

8.8. The potential impacts identified by the GDNs from the smart meter roll-out included:

- additional calls to the emergency service
- increased call out volumes of first call operatives (FCOs)
- requirement to alter location of customer emergency control valve
- requirement to reconnect communications during service replacement, repair or alterations
- additional staff training costs.

8.9. All GDNs proposed that smart meter related costs should be funded through a combination of an ex ante allowance (based on assumed additional workload and associated costs) and a volume driver to adjust the allowance based on actual workload. The assumptions for workload and the proposed mechanisms are summarised in table 8.1 below.

Table 8.1 GDN smart meter roll-out funding proposals

	Assumption in ex ante allowance	**Mechanism**
NGGD	5% of smart meters require GDN support	Asymmetric volume driver (for cost increases above the baseline) Reopener mechanism for material opex costs
NGN	4% increase in one-hour response calls Over 100% increase in other calls Impact on repex programme	Symmetric volume driver
SGN	5% of smart meters require GDN support	Asymmetric volume driver (for cost increases above the baseline)
WWU	5% of smart meters require GDN support	Asymmetric volume driver (for cost increases above the baseline)

8.10. The GDNs have supported their assumptions with evidence based on survey work by themselves and the wider industry, but they acknowledge that there is uncertainty on what type of activity they may have to support and who would be liable for the cost.

[38] DECC smart meters:
http://www.decc.gov.uk/en/content/cms/tackling/smart_meters/smart_meters.aspx

Street works

8.11. All companies have accepted our proposed approach to the treatment of uncertain street works costs. NGGD also proposed an alternative mechanism to provide protection against costs that may arise due to a specific part of street works legislation, the implementation of lane rental schemes. This mechanism would operate along with the reopener mechanism we have proposed.

8.12. NGGD has proposed a revenue trigger to address lane rental costs. The revenue trigger would take the form of a formula which would be updated based on the structure of the lane rental scheme, in relation to the coverage of the scheme and the lane rental charge. The revenue trigger would result in an automatic adjustment to allowed revenues to compensate for the additional costs incurred. The formula would be designed to take account of the actual proportion of the road network where lane rental charges are to apply and the cost of the charge itself. The other parameter, number of days in road, would be set based on the business plan workload and the average number of days in road assumed based on historical data.

8.13. NGGD considered that a trigger mechanism best dealt with the type of uncertainty faced by the introduction of lane rental schemes. It stated that the uncertainty surrounding a lane rental scheme relates to the coverage of the scheme (i.e. the proportion of the affected road network in the GDN's area), and the level of the rental charge. NGGD considered that our proposed reopener mechanism could leave it with significant cash-flow risk. For example, if a lane rental scheme is implemented in 2014-15 they would not be able to recover the efficient costs incurred until 2019-20.

Medium rise multiple occupancy buildings

8.14. NGGD has proposed a volume driver for work related to medium rise (three to five floors) multiple occupancy buildings (MOBs). NGGD's proposed driver would set the unit cost of work up front and allowed revenues would be increased, based on this unit cost, once the health condition of the asset is assessed. NGGD's reason for proposing a volume driver is the uncertainty related to the type and extent of work that will be required to replace and/or repair the assets which will not be known until survey work has been conducted.[39]

8.15. As part of the request they included the unit cost per supply point, forecast based on experience in replacing these types of assets.

Mains replacement: above tier 2 threshold

8.16. Since publication of our Strategy Document, the HSE has set out its revised iron mains replacement programme. We have identified the need for a mechanism to deal with uncertainty in relation to the volumes associated with medium sized (or tier

[39] The survey work will be funded through an ex ante allowance (see Chapter [8] cost efficiency supplementary annex).

2) mains which will be decommissioned under the new strategy. The proposed mechanism would replace the existing volume driver which applies to a wider set of iron mains.

8.17. NGGD considers that the volume driver should allow GDNs to recover the costs of dealing with tier 2 mains and services that exceed the HSE agreed threshold during RIIO-GD1 as a result of dynamic growth; mains with a risk score above threshold known at the review should be funded through an ex-ante allowance.

8.18. NGGD also proposed how the unit costs associated with the volume driver should be set. It considered that for services a different unit cost should be given for domestic services relays, service transfers and non domestic services. For mains unit costs they should be split by the diameter of the pipe and length of the pipe as both factors impact the cost of replacement.

Statutory Independent Undertakings (SIUs)

8.19. SGN proposed to use the first reopener window to consider the long term solution for each of the four SIUs.[40] It considered that a long term solution could remove the reliance on a single source of supply and take account of green gas options such as bio-methane, but that there was not adequate time to implement such a solution to ensure security of supply in Winter 2012/13.

Large load connections

8.20. WWU proposed a mechanism to provide funding in the event that new daily metered sites, e.g. a gas fired power station, connect to its network. WWU request a logging up mechanism for costs associated with necessary reinforcement of the network upstream of the new connection. Once the network has signed an "Advanced Reservation Capacity Agreement" with the connecting party, allowed revenues would be adjusted. WWU consider that the connection of such sites could result in significant network expenditure.

Other uncertainty mechanism proposals

8.21. A number of GDNs raised concerns around the uncertainty in relation to the relationship between their networks and the NTS.[41] SGN requested that there be a facility for them to log up efficient costs that may be incurred in investing in its networks were there to be changes driven by the NTS. WWU raised similar concerns and proposed a reopener mechanism to control for the uncertainty.

8.22. WWU proposed a number of uncertainty mechanisms in its business plan submission. We note that some of its proposed mechanisms related to potential

[40] Statutory Independent Undertakings (SIUs) are independent networks not connected to the national gas network. We describe these systems in Chapter [7] of the finance supplementary annex.
[41] National Transmission System, operated by National Grid Gas.

changes in costs driven by legislative change, e.g. environmental or climate change legislation. The mid-period review is intended to allow for material changes in revenue as a result of legislative change.

1.25. WWU has also proposed an additional mechanism for funding costs related to customer communications following a national emergency occurrence. WWU considers that if a major energy incident were to occur, DECC[42] would dictate the communications that WWU would have to pay for. WWU therefore requested that allowed revenues are sufficiently flexible to allow for changes in revenues for miscellaneous cost such as these.

Our proposals

8.23. Table 8.2. summarises our proposed uncertainty mechanisms for IP reflecting our Strategy Document, as well as four additional uncertainty mechanisms we have identified since March in relation to a tier 2 repex volume driver; smart metering costs; connection of new large loads; and Xoserve.[43]

8.24. We are not changing our position on those mechanisms identified in March. However, in a number of cases, we are consulting on the precise details of the mechanism where these have developed since March (as we set out below).

[42] Department of Energy and Climate Change
[43] Xoserve provides data services on behalf of transporters. For example, they provide billing services for shippers for use of the transportation network, manage the booking of capacity on the distribution network, run the industry settlement systems and manage the change of supplier process.

Table 8.2 Proposed uncertainty mechanisms

Mechanism	Area covered	Regularity of potential adjustment
Indexation	Inflation, cost of debt[1]	Annual
Pass through	Licence fees, business rates,[1] pension deficit costs,[2] third party damage & water ingress, additional costs directed by the Authority, costs relating to gas theft, the price of gas (in relation to shrinkage), and NTS exit capacity charges	Annual
Reopener	Street works, enhanced physical site security, connection charging boundary, smart metering, connection of new large loads, innovation roll-out	Twice: April 2016, 2019
Reopener	Asset health/risk data improvements	Once: April 2017
Volume driver	Tier 2 mains replacement	Annual
Review	Xoserve funding, fuel poor network extension scheme	At any time
Mid-period review	Any legislative change including the HSE iron mains programme, introduction of new outputs	Once: April 2017
Trigger	Tax legislation[1]	At any time
Reset	Pension deficit repair[1]	April 2015, and every three years there after
Disapplication	Enables price control parameters to be reset if GDN experiences financial distress	At any time

(1) See Chapter 3 (cost of debt), Chapter 6 (business rates and tax trigger) and Chapter 5 (pension deficits) for further details on these mechanisms. (2) The requirement for pass-through of NTS pension deficit costs depends on whether the current arrangements for the recovery of such costs remain in place. We discuss this issue in Chapter 7.

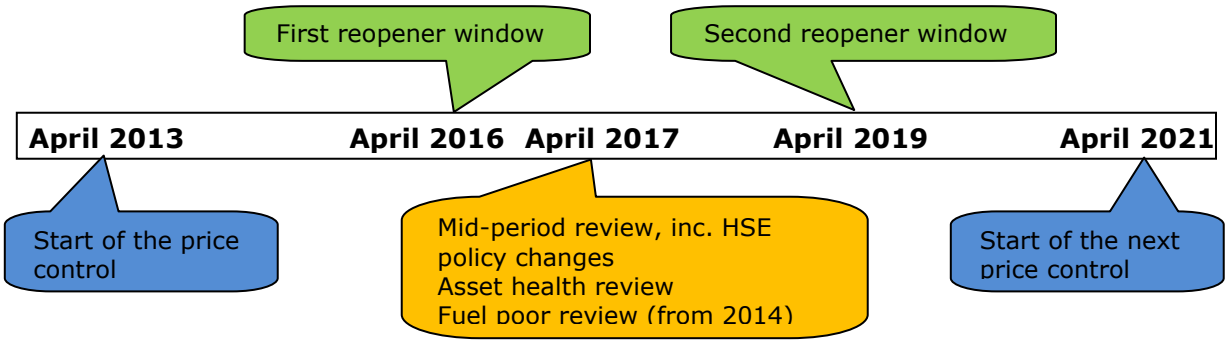
8.25. Additionally, we are as part of this paper consulting on the appropriate mechanism for dealing with uncertainty in relation to lane rental costs and replacement or repair of assets in medium rise MOBs. We are also consulting on SGN's proposal for an uncertainty mechanism in relation to SIUs.

8.26. Our April 2012 consultation on network charging volatility considered the option of introducing a lag on uncertainty mechanisms.[44] We have not yet reached a decision following this consultation. Any change as a result of our decision will not impact on the mechanisms proposed in this document, only when any resulting changes to allowed revenues would impact on customers' charges.

[44] Mitigating network charging volatility arising from the price control settlement: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=368&refer=Networks/Policy

8.27. Our aim in restricting potential changes to specified periods, i.e. using reopener windows and the mid-period review, and applying a materiality test is to limit the impact that uncertainty mechanisms will have on end customers' charges. Figure 8.1 illustrates when changes to allowed revenues, and thus customers charges, may occur.

Figure 8.1 Timing of uncertainty mechanisms



8.28. We set out below the details of the mechanisms we are proposing. We highlight where we have made changes from that proposed in our Strategy Document based on the GDNs plans and new information.

Indexation

8.29. We will provide GDNs with protection against economy wide inflation through annual indexation of revenues using the Retail Prices Index (RPI). We have changed our approach to indexation, from that set out in our Strategy Document. The background and reason for this change can be found in our decision published in July 2011.[45] In summary, allowed revenues will be indexed by forecast RPI over the 12 months of the relevant year. There will be an additional adjustment two years later to true-up for the difference between forecast and actual RPI.

8.30. The GDNs are also provided with an allowance for real price effects (RPEs), which represent the expected change in input prices (e.g. wages) relative to economy wide inflation. Further details can be found in Chapter [3] of the cost efficiency supplementary annex.

Pass through

8.31. We are not proposing any changes to our Strategy Document and will continue to allow for the pass through of costs that are outside of the control of the GDNs, as listed in table 8.2 above.

[45] Decision on the RPI indexation method: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=117&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes

Reopener mechanisms

8.32. We intend to assess additional costs in a number of areas as part of reopener mechanisms. We have made some changes to the detailed design of the mechanisms from that set out in our Strategy Document. We set out below the principle approach to reopeners.

8.33. A reopener can be triggered by a GDN or by us. In order to trigger a reopener the efficient costs either already incurred (or saved), or likely to be incurred (or saved) over the remaining years of RIIO-GD1, will need to pass a materiality threshold. We are setting this materiality threshold as a percentage of average annual base revenue over the price control period. We propose to use allowed revenue as opposed to allowed expenditure set out in our Strategy Document, for consistency with previous reviews. Each area of cost subject to the reopener mechanism will need to individually pass the materiality threshold, ie if additional cost in relation to street works and smart metering collectively breach the materiality threshold but individually they do not then they will not qualify for assessment under this mechanism.

8.34. For reopeners in respect of street works, enhanced physical site security, changes to the connection charging boundary, smart metering, the connection of new large loads and the innovation roll-out mechanism the materiality threshold percentage will be 1 per cent after the application of the efficiency incentive rate.

8.35. For the reopener in respect of asset health/risk (and the review as a result of changes to HSE policy) we intend to apply a higher materiality threshold of 5 per cent. This will not be subject to the efficiency incentive rate. The reason for our decision to apply a higher materiality threshold reflects the fact that the mechanisms are not designed to compensate GDNs for costs incurred but costs they propose to incur. Therefore there is no cash-flow risk associated with these areas of uncertainty, unlike the other areas covered by a reopener mechanism.

8.36. Reopeners will be restricted to defined periods. In the case of street works, enhanced physical site security, changes to the connection charging boundary, smart metering, the connection of new large loads and the innovation roll-out mechanism a successful funding request will result in changes to allowed revenues from April 2016 and/or April 2019. In our Strategy Document we stated that there would be an annual opportunity for the GDNs to request additional funding under the innovation roll-out mechanism. However, we propose to restrict the reopener to two windows in line with other costs subject to reopeners. We do not consider that there is a requirement to provide greater scope to reopen the control for innovation relative to other cost areas. Restricting the number of reopeners will also minimise the opportunity for changes to allowed revenues and hence volatility in customer charges.

8.37. In the case of asset health/risk a successful funding request will result in changes to allowed revenue from April 2017. GDNs will be required to submit a reopener request in May for each applicable reopener. We have moved the reopener

two months earlier than set out in our Strategy Document to allow enough time for assessment and consultation on changes to allowed revenue. All allowed revenue adjustments as a result of the application of uncertainty mechanisms will be part of the annual iteration of the financial model which will occur in November each year.

8.38. We set out in the next section further details on those areas of uncertainty that are to be dealt with through reopeners which we did not discuss as part of our Strategy Document. For the avoidance of doubt we have not changed our intended use of reopeners for street works, enhanced physical site security and changes to the connection charging boundary.

Revenue driver: tier 2 mains replacement

8.39. Since our Strategy Document, HSE has set out its new policy in relation to iron mains. As we describe in more detail in Chapter [6] of the outputs supplementary annex, the new policy is referred to as the three-tier approach.

8.40. The existing revenue driver mechanistically changes the allowance provided for mains replacement based on actual work conducted. Given the new HSE policy, we propose to replace the existing revenue driver (which relates to all iron main) with a revenue driver that relates to mandatory (or above risk threshold) tier 2 mains only. This is defined as mains above 8 inches and below 18 inches in diameter, and above a risk threshold agreed by the GDNs with the HSE.

8.41. Our proposed revenue driver is set out in draft licence condition GDC [22]. It will result in a mechanistic change to allowed revenues based on the actual volume of mains replacement, in relation to above threshold tier 2 mains. Unit costs will be defined upfront, we propose unit costs which differentiate between three different sized mains: 8-9, 10-12 and 12-18 inches in diameter (consistent with the current revenue driver).

8.42. As currently set out in the draft Licence condition, we propose that the revenue driver applies to the entire population of tier 2 mains (and associated services) above the risk threshold. We have two specific questions for respondents:

- Should we include all above risk threshold tier 2 mains within the driver? An alternative would be that the revenue driver covers only above threshold tier 2 mains not identified at the review period, and fund identified tier 2 mains within an ex ante allowance, ie the revenue driver would allow for changes around an assumed base volume of work.
- Should we include services within the revenue driver?

8.43. We would welcome respondents' views on the scope of the revenue driver.

8.44. For clarity, we do not propose to implement a revenue driver based on risk removed (as set out in our Strategy Document) given the change to the HSE iron mains policy.

Fuel poor network extension scheme review

8.45. We set out in our Strategy Document our intention to conduct a review of the fuel poor network extension scheme during RIIO-GD1 to ensure it remains efficient and cost-effective. We propose to evaluate the scheme from 2014. Funding for the scheme is provided ex ante and this mechanism will allow for any necessary adjustments to the funding following a review.

Smart metering reopener

8.46. The roll-out of gas smart meters is due to start in 2014 and is forecast to be completed by 2019. There is uncertainty on what the impact to the GDNs will be. In our Initial Assessment of the GDNs' business plans we acknowledge this uncertainty and proposed to the industry that they consider further the assumptions feeding into their forecast cost impacts.

8.47. The GDNs have conducted further work in collaboration with the Energy Networks Association (ENA). However, there is still uncertainty over the exact role that the GDNs will be required to play in the supplier led roll-out. Given this uncertainty we are proposing an uncertainty mechanism which will allow the GDNs to recover efficient costs associated with the roll-out if they materialise.

8.48. There was a consensus view proposed by the GDNs in their business plans that funding should be two-fold: an ex ante allowance based on an assumed base line impact on workload (eg increased volume of calls to the emergency service, increased number of call outs, requirement to alter equipment location), and a volume driver which adjusts the allowance for actual workload impact.

8.49. We consider that the GDNs' proposed mechanism has two drawbacks. First, we are concerned that the structure of the proposed mechanism reduces the GDNs' incentive to minimise their volume of work, e.g. the number of call outs they attend. Second, we consider that we do not have robust evidence on the likely costs, as evidenced by the variation in GDNs' forecast costs.

8.50. Taking this into consideration we propose that costs be evaluated at the first reopener window in 2015. Based on the current timetable for the roll-out that would mean that the GDNs will have experienced over one year of activity. At this time we will provide an allowance for the efficient costs already incurred. GDNs will be expected to demonstrate the efficiency of those costs and also how they have worked with suppliers to limit the need for GDN support. Where appropriate we will benchmark across GDNs, and the electricity distribution networks, to identify an efficient level of costs. We also expect the GDNs to demonstrate the consideration of future reductions in costs that the smart metering programme may bring, e.g. by bringing forward work, such as service replacement, already funded in base allowances.

8.51. Our preferred approach following the reopener is to fund work for the remaining years of RIIO-GD1 through an ex ante allowance or to introduce a volume driver, e.g. if there is uncertainty over the timing of the roll-out. We propose to consider whether we can introduce a volume driver at the time of the first reopener window.

8.52. In addition to the reopener, we have also provided £6.3m across the GDNs in preparatory funding for the smart meter roll out as we describe in Chapter[4] of the cost efficiency supplementary annex.

Lane rental uncertainty mechanism

8.53. In our Strategy Document we recognised the uncertainty around the application of legislation relating to street works. We proposed a reopener mechanism to provide the GDNs protection against the risk of material costs arising, and to provide consumers protection against potentially material forecasting error.

8.54. We intend, as proposed, to provide a reopener mechanism for all street works costs that are not funded through ex ante allowances. We have considered NGGD's proposal for a separate revenue trigger to protect them against additional costs due to the implementation of lane rental schemes.

8.55. We are in principle supportive of the proposal by NGGD. However, we have concerns with the details of the mechanism. NGGD's proposed revenue trigger has three elements: the proportion of roads covered by the scheme; the average number of days the GDN is in the road; and, the unit cost. The first parameter will form part of the scheme design, and the second based on historical data. NGGD propose that the third parameter – the unit cost – would be equal to the lane rental charge. We disagree with this assumption; it will overcompensate NGGD for the introduction of the lane rental. GDNs will choose to avoid the lane rental charge where it is cheaper to do so, e.g. by working outside of chargeable periods, by reducing number of days in road or by focussing mains replacement in areas not subject to lane rental. We require more data from NGGD on the scope for avoiding the charge and the cost of doing so (which will by definition be less than the charge itself) to set the appropriate unit costs.

8.56. In the absence of the requisite information from NGGD, we propose to consider lane rental costs like other street works costs and therefore we will assess additional costs submitted by a GDN at the reopener windows. However, as per our proposed approach to funding smart meters we will assess at the reopener window whether there is sufficient information to introduce a revenue trigger mechanism for additional schemes that may commence during the remaining years of RIIO-GD1.

8.57. We are seeking views from stakeholders on the application of a trigger mechanism for lane rental costs. In particular, we would welcome respondents' views (and evidence) on whether there is sufficient evidence to set a unit cost for the proposed revenue trigger.

Large load connection reopener

8.58. We agree with WWU's statement that there is potential for a number of new large loads to connect to the distribution network, but given the uncertainty it is not appropriate to fund any necessary network expenditure upfront.

8.59. We are therefore proposing that such expenditure be assessed at the two reopener windows and be subject to a materiality threshold, as per street works costs and enhanced physical site security costs. When making a reopener claim the GDN will be expected to provide evidence that the load has or will be connected. The GDN will also need to demonstrate that the economic test has been passed and that therefore costs are not fully recoverable from the connectee.[46]

Medium rise multiple occupancy buildings uncertainty mechanism

8.60. NGGD proposed a volume driver to allow for funding of work required on assets associated with medium rise MOBs. The other GDNs included forecast costs as part of the business plan ex ante allowances.

8.61. We agree with NGGD that there is uncertainty on the level of work that will be required on these assets and that this will not be resolved until these assets have been surveyed. An ex ante allowance therefore does not represent an appropriate balance of risk between GDNs and consumers, as it may result in NGGD receiving funding for work that is not required. However, we are seeking further evidence from NGGD, and the other GDNs, in support of such a mechanism. In particular we require more evidence in order to establish the robustness of the unit costs forecast. Evidence received in the GDNs' business plans indicates that there is a wide variation in the potential costs of work related to assets in medium rise MOBs.

8.62. Based on this evidence, which indicates uncertainty in unit costs, we consider the most appropriate approach, for the benefit of consumers and GDNs, is to reassess the provision of funding as part of our review into asset health/risk output levels, as set out in paragraph [8.86].

8.63. If further information is received on the robustness of unit cost data we will reconsider the provision of a revenue driver for Final Proposals. The mechanism would result in changes to GDNs' allowed revenues based on actual workload and the assumed unit cost.

Xoserve funding review

8.64. We propose that there is provision in RIIO-GD1 to review funding in the event that there are changes to the way in which Xoserve is funded.

[46] See for example WWU's connection charging methodology statement, annex F: http://www.wwutilities.co.uk/Content/Publications/pdf/WWU_Methods_and_Principles_for_Connection_Charges.pdf

8.65. We published a decision in January 2012 on the options for future funding arrangements of Xoserve.[47] Our open letter did not reach a decision on the details of the new funding arrangements. Therefore, we are not able at this time to conclude on the appropriate funding for the GDNs. We will continue to provide an ex ante allowance based on current arrangements. The review will allow us to alter this funding once a decision has been reached on the final funding model.

SIUs

8.66. SGN has proposed to use the first reopener window to consider the long term solution for each of the four SIUs. SGN consider that there is uncertainty in relation to the future supply options for SIUs.

8.67. The SIUs were supplied from the LNG facility at Glenmavis. However, the Glenmavis terminal has now closed. For the winter 2012/13 (ie the last year of the current price control), as well as for RIIO-GD1, SGN has proposed a temporary solution to supply SIUs involving tankering LNG from Avonmouth, and a temporary buffer mobile storage facility proximate to the sites. SGN considers that this temporary solution could form part of the longer-term solution, e.g. if the least cost solution involves utilising LNG importation terminals as the source of supply, for instance the Isle of Grain. SGN has also stated that it intends to consider alternative solutions to LNG, such as biomethane, hydrogen blending, as well as Liquefied Petroleum Gas (LPG).

8.68. We would welcome respondents' views on whether we should allow a reopener in relation to the SIUs. Our initial view is that a reopener is not justified. We will provide SGN with funding at the review to finance its preferred short-term solution, which could also form part of the long term solution. Thus, we do not consider SGN faces material downside cash-flow risk in relation to the long-term solution. Our preferred approach provides high-powered incentives for SGN to implement the least cost long-term supply solution at the earliest opportunity, eg by seeking alternative sources of LNG supply; engaging in demand-side measures; LPG conversion etc. By contrast, a reopener would blunt SGNs incentives to introduce the least cost solution.

The mid-period review

8.69. We do not propose any changes to the mid-period review as set out in our Strategy Document. We are therefore still proposing that any changes to outputs and/or allowed revenues as a result of the mid-period review will apply from April 2017.

8.70. We provide below more details on how we would undertake a review of outputs and the associated revenue requirement in relation to the anticipated further change in HSE iron mains policy, which would fall within the scope of the mid-period review.

[47] Open letter review of Xoserve: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=345&refer=Networks/GasDistr/RIIO-GD1/ConRes

8.71. We also set out how we would undertake any review of outputs and allowed revenues in relation to the asset health/risk secondary deliverable. As we explain below, we propose to undertake any such review at the same time as the mid-period review given the potential interrelationship with any revisions to the iron mains programme.

The mid-period review and HSE policy on iron mains replacement

8.72. In June, the HSE announced a change to its iron mains replacement policy based on a 3-tier approach.[48] As set out in our Strategy Document, and in recent letters from HSE to the GDNs,[49] the HSE also proposes to undertake a more fundamental review of the Pipeline Safety Regulations (PSR) as they relate to iron mains, and the absolute requirement to maintain a safe network. The HSE has indicated to us that it will complete its review of the current statutory framework for 2015 to allow for any consequent changes to GDNs investment plans to be taken into account at the mid-period review.

8.73. The trigger for reconsidering GDNs' outputs and allowed expenditure will be a change in the HSE iron mains policy. In the event of such a trigger, we will follow the 3 stage approach outlined in our March strategy.

8.74. During the first stage, we will consult on whether the new HSE policy implies a change in GDNs' outputs agreed as part of RIIO-GD1, and therefore whether we need to consider changes to allowed expenditure. We want to avoid resetting allowed revenues unless there is a material change in HSE policy. Therefore, we intend to subject the decision as to whether to reopen the price control with respect to iron mains to a materiality test, which we will consider during stage 1.

8.75. We propose to define materiality as a change in costs which is greater than 5 per cent of GDNs' average annual base revenue.[50] In setting a higher materiality test, than that proposed for the majority of reopener mechanisms, we signal our clear intention only to reopen the price review where there is a substantive change to the required outputs. The threshold is symmetric, ie both a potential reduction of 5 per cent of allowed revenues or a potential increase will be considered a material change.

8.76. We will consider the materiality threshold for each individual licensee. However, in the event that the materiality threshold is reached by any individual

[48] HSE (9 June) Gas Distribution Network – Iron Mains Replacement Programme Key Elements of a Pipeline Safety Regulations 1996 R13A approval, letter to GDNs. We have summarised the HSE's new policy in our outputs paper on safety outputs.
[49] HSE (9 June) Gas Distribution Network – Iron Mains Replacement Programme Key Elements of a Pipeline Safety Regulations 1996 R13A approval, letter to GDNs.
[50] We will calculate the change in costs based on the actual change in costs incurred to date in relation to the new HSE policy, and expected cost changes over the remainder of the price control period, discounted at the cost of capital. The expected cost change will be calculated after the application of the [efficiency incentive rate/incentive strength set by the IQI].

licensee, we will reopen the allowed revenues in respect to iron mains for all licensees.

8.77. In applying the materiality test we will consider the net effect on required revenues of the change to HSE policy. For example, a change in the HSE policy could lead to lower required output levels (eg in terms of length of mains abandoned), and therefore lower expected expenditure levels. However, a reduced programme could result in cost increases, eg in relation to increased repairs, higher shrinkage, higher penalties under the environmental emissions incentive (EEI) mechanism. In calculating materiality, we will consider all consequential effects of a change in the outputs GDNs are required to deliver.

8.78. For avoidance of doubt, we do not intend to impose the materiality threshold for any other changes that may qualify under the mid-period review. This is line with our Strategy Document.

8.79. If the materiality threshold is not reached, we will not restate allowed revenues or outputs determined by us. The GDNs will still be required to meet any output requirements specified by statute/HSE (ie as set out in the GDNs' safety cases).

8.80. If the materiality threshold is reached, we will proceed to stage 2. At stage 2, we will need to identify in more detail the implications of the change in outputs for the required revenues (ie developing the analysis we undertook as part of the materiality test in stage 1).

8.81. In calculating the required change to allowed revenues in respect to iron mains, we will determine the incremental revenue, ie the change in revenues associated with the change in outputs. For example, if the change in HSE policy requires an X unit reduction (increase) in outputs, we will adjust the revenue allowance to reflect the avoided (additional) cost associated with these X units. We will not reconsider the unit cost or overall allowance determined at the price review for all other units which the GDNs will continue to deliver. The intended effect is to ensure that GDNs retain the benefit (or incur the costs) of outperforming (underperforming) in relation to the iron mains programme over the eight year price control period.

8.82. In calculating the required change to allowed revenues, we will also consider the consequential effects of changes to iron mains. For example, we envisage that we will need to reconsider costs in relation to elements of opex, such as repairs and emergency services. We will also need to consider whether we reset shrinkage baselines. As with allowances for the iron mains programme, we will reset such allowances with the intention that companies effectively incur the benefit (cost) of outperforming (underperforming) over the eight year period. For example, in relation to the shrinkage baseline, we will reset baselines to reflect both GDNs out/under-performance at the time of the mid-period review as well as changes to the iron mains policy.

8.83. At stage 3, we will consult on the proposed changes to GDNs' outputs and revenue allowances.

8.84. In the event we decide to reset outputs and required revenues arising from change to HSE policy, we confirm that (as set out in our Strategy Document) we will not make changes to any incentive mechanisms, any financial parameters, or other price control parameters other than as required to accommodate the change in outputs. We are also committed to not making any retrospective adjustments, eg to claw-back any gains that have been made through delivering the programme at least cost.

Review of asset health/risk output levels

8.85. As set out in Chapter [7] of the outputs supplementary annex, in the absence of robust asset health and criticality data and other evidence supporting the need for higher levels of criticality expenditure such as appropriate consideration of the range of options for intervention and appropriate cost-benefit analysis, we have set allowed levels of investment in relation to this secondary deliverable in line with historical levels of expenditure. As we set out in our Strategy Document, we propose to allow a reopener in relation to asset health/ risk deliverables during the RIIO-GD1 period where the GDNs can provide improved data.

8.86. We propose to allow a reopener at the same time as the mid-period review and the review as a result of changes in HSE iron mains policy. We propose to consider these issues at the same time as any material change to HSE iron mains policy is likely to have implications for the asset health/risk levels that GDNs are required to deliver.

8.87. In order to reconsider the required improvement in asset health/risk secondary deliverable at the mid-period review, we will require the GDN to demonstrate the following:

- it has improved asset health data and criticality for one or more asset classes, and the data are sufficiently robust to support a revision to the asset health/risk secondary deliverable for the specific asset class or classes. For example, we would expect the GDN to address any issues around the quality of data that we identified as part of the current price review. We would also expect companies to have undertaken substantive surveying of assets, collected robust data on deterioration rates etc. We would also expect the company to commit to the delivery of the revised output level.
- the improved data for the asset class or classes supports a material change to the corresponding asset health/risk secondary deliverables set at the price control. We propose to define materiality in terms of the change in allowed costs to deliver the revised asset health/risk secondary deliverable for the asset class or asset classes, where the change in allowed costs exceeds 5 per cent of allowed revenues.

8.88. For clarity, we will not initiate a reopener. We will only reconsider GDNs' outputs and associated allowed revenues in relation to asset health/risk secondary deliverable where this is requested by the GDN.

Appendices

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Appendix 1 – Allowed Revenues

Table A1: East of England

East of England										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	94	97	104	109	117	122	128	132	903	113
Fast pot	162	148	141	132	125	117	108	100	1,031	129
Post-TIM totex allowance	256	245	245	241	242	239	236	232	1,935	242
Regulatory Asset Value (RAV)										
Opening asset value	2,522	2,492	2,464	2,453	2,447	2,442	2,435	2,424	-	2,460
RAV additions (after disposals)	93	97	104	109	117	122	128	132	902	113
Depreciation	(123)	(124)	(115)	(115)	(121)	(130)	(138)	(149)	(1,016)	(127)
Closing asset value	2,492	2,464	2,453	2,447	2,442	2,435	2,424	2,408	-	2,446
Final Proposals allowances										
Fast pot expenditure	162	148	141	132	125	117	108	100	1,031	129
Non-controllable opex	92	92	91	91	91	90	90	90	726	91
RAV depreciation	123	124	115	115	121	130	138	149	1,016	127
Return	106	105	104	104	103	103	103	102	829	104
Other	2	2	2	1	1	1	1	1	12	(2)
Tax allowance	17	14	37	35	35	35	35	36	245	31
Price Control Revenue										
Total costs	501	484	490	477	477	476	476	478	3,859	31
Less excluded services	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(29)	-
Base revenue	497	481	486	473	473	473	472	474	3,830	479
Excluded services revenue	4	4	4	4	4	4	4	4	29	4
Total revenue	501	484	490	477	477	476	476	478	3,859	482
Annual change to Base Revenue	4.0%	-3.3%	1.1%	-2.6%	-0.1%	-0.1%	-0.1%	0.5%	(0)	-

Table A2: London

London										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	74	81	95	100	109	116	123	130	827	103
Fast pot	128	120	119	109	100	92	82	72	821	103
Post-TIM totex allowance	202	201	214	209	209	208	204	202	1,648	206
Regulatory Asset Value (RAV)										
Opening asset value	1,637	1,627	1,626	1,642	1,665	1,692	1,718	1,743		1,669
RAV additions (after disposals)	71	81	93	100	109	116	123	130	823	103
Depreciation	(81)	(82)	(76)	(77)	(83)	(90)	(98)	(107)	(694)	(87)
Closing asset value	1,627	1,626	1,642	1,665	1,692	1,718	1,743	1,766		1,685
Final Proposals allowances										
Fast pot expenditure	128	120	119	109	100	92	82	72	821	1,685
Non-controllable opex	51	51	51	50	50	50	50	50	402	-
RAV depreciation	81	82	76	77	83	90	98	107	694	103
Return	69	69	69	70	71	72	73	74	567	50
Other	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(3)	87
Tax allowance	-	-	30	27	26	26	25	25	159	71
Price Control Revenue										
Total costs	329	322	345	333	329	329	326	328	2,640	1,995
Less excluded services	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(17)	(2)
Base revenue	326	319	343	331	327	327	324	326	2,623	1,993
Excluded services revenue	2	2	2	2	2	2	2	2	17	2
Total revenue	329	322	345	333	329	329	326	328	2,640	1,995
Annual change to Base Revenue	0.9%	-2.2%	7.4%	-3.6%	-1.1%	-0.2%	-0.7%	0.4%	0	

Table A3: North West

North West										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	70	70	75	81	87	92	97	99	670	84
Fast pot	125	110	105	100	95	89	83	75	781	98
Post-TIM totex allowance	194	180	180	181	183	180	179	174	1,451	181
Regulatory Asset Value (RAV)										
Opening asset value	1,739	1,716	1,699	1,694	1,695	1,698	1,698	1,697		-
RAV additions (after disposals)	64	69	75	81	87	92	97	99	663	83
Depreciation	(86)	(87)	(80)	(80)	(85)	(91)	(98)	(107)	(713)	(89)
Closing asset value	1,716	1,699	1,694	1,695	1,698	1,698	1,697	1,689		-
Final Proposals allowances										
Fast pot expenditure	125	110	105	100	95	89	83	75	781	98
Non-controllable opex	71	70	68	68	67	67	67	66	545	68
RAV depreciation	86	87	80	80	85	91	98	107	713	89
Return	73	72	72	72	72	72	72	72	575	72
Other	1	1	1	0	0	0	0	0	3	0
Tax allowance	10	8	26	25	25	25	25	26	171	21
Price Control Revenue										
Total costs	366	348	351	344	345	344	345	346	2,788	349
Less excluded services	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(22)	(3)
Base revenue	363	345	348	341	342	342	342	343	2,766	346
Excluded services revenue	3	3	3	3	3	3	3	3	22	3
Total revenue	366	348	351	344	345	344	345	346	2,788	349
Annual change to Base Revenue	5.5%	-4.9%	1.0%	-2.1%	0.3%	-0.2%	0.2%	0.3%	0	

Table A4: West Midlands

West Midlands										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	57	61	64	65	71	76	80	82	557	70
Fast pot	97	91	83	76	73	68	64	57	609	76
Post-TIM totex allowance	154	152	147	141	145	144	144	138	1,166	146
Regulatory Asset Value (RAV)										
Opening asset value	1,314	1,305	1,300	1,304	1,307	1,314	1,319	1,323		
RAV additions (after disposals)	57	61	64	65	71	76	80	82	556	70
Depreciation	(65)	(66)	(61)	(61)	(65)	(70)	(76)	(83)	(548)	(69)
Closing asset value	1,305	1,300	1,304	1,307	1,314	1,319	1,323	1,322		
Final Proposals allowances										
Fast pot expenditure	97	91	83	76	73	68	64	57	609	76
Non-controllable opex	49	49	48	48	48	48	48	47	385	48
RAV depreciation	65	66	61	61	65	70	76	83	548	69
Return	55	55	55	55	55	56	56	56	443	55
Other	1	1	1	1	1	1	1	0	5	1
Tax allowance	7	5	21	19	20	20	19	20	131	16
Price Control Revenue										
Total costs	274	267	269	260	262	262	263	263	2,121	265
Less excluded services	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(17)	(2)
Base revenue	272	265	267	258	260	260	261	261	2,104	263
Excluded services revenue	2	2	2	2	2	2	2	2	17	2
Total revenue	274	267	269	260	262	262	263	263	2,121	265
Annual change to Base Revenue	0.3%	-2.5%	1.0%	-3.4%	0.6%	0.1%	0.2%	0.1%	(0)	

Table A5: Northern

Northern										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	79	88	94	100	98	103	108	112	784	98
Fast pot	120	119	114	109	96	90	84	79	811	101
Post-TIM totex allowance	199	208	209	209	194	193	193	191	1,595	199
Regulatory Asset Value (RAV)										
Opening asset value	1,589	1,588	1,596	1,615	1,639	1,656	1,671	1,683		
RAV additions (after disposals)	79	88	94	100	98	103	108	112	783	98
Depreciation	(79)	(81)	(75)	(76)	(82)	(88)	(96)	(105)	(681)	(85)
Closing asset value	1,588	1,596	1,615	1,639	1,656	1,671	1,683	1,691		
Final Proposals allowances										
Fast pot expenditure	120	119	114	109	96	90	84	79	811	101
Non-controllable opex	56	55	55	55	55	55	55	55	440	55
RAV depreciation	79	81	75	76	82	88	96	105	681	85
Return	67	67	68	69	70	70	71	71	553	69
Other	10	10	10	10	10	10	10	10	82	10
Tax allowance	6	6	25	23	21	22	22	23	147	18
Price Control Revenue										
Total costs	337	339	347	341	333	335	338	343	2,715	339
Less excluded services	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)
Base revenue	337	339	347	341	333	335	338	343	2,714	339
Excluded services revenue	0	0	0	0	0	0	0	0	1	0
Total revenue	337	339	347	341	333	335	338	343	2,715	339
Annual change to Base Revenue	0.8%	0.5%	2.5%	-1.7%	-2.4%	0.7%	0.9%	1.5%	0	

Table A6: Scotland

Scotland £m 2009-10 prices	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Total	Average
Totex										
Slow pot	59	61	63	68	72	75	73	76	546	68
Fast pot	92	87	83	82	80	76	69	66	635	79
Post-TIM totex allowance	151	147	145	151	152	151	142	142	1,181	148
Regulatory Asset Value (RAV)										
Opening asset value	1,274	1,268	1,262	1,264	1,273	1,280	1,285	1,282		
RAV additions (after disposals)	59	60	63	68	72	75	73	76	546	68
Depreciation	(65)	(66)	(60)	(60)	(64)	(70)	(76)	(84)	(546)	(68)
Closing asset value	1,268	1,262	1,264	1,273	1,280	1,285	1,282	1,274		
Final Proposals allowances										
Fast pot expenditure	92	87	83	82	80	76	69	66	635	79
Non-controllable opex	31	30	30	30	30	30	30	30	241	30
RAV depreciation	65	66	60	60	64	70	76	84	546	68
Return	54	53	53	54	54	54	54	54	430	54
Other	10	10	10	10	10	10	10	10	81	10
Tax allowance	-	-	14	16	17	17	17	18	101	13
Price Control Revenue										
Total costs	251	247	251	253	256	258	257	262	2,034	254
Less excluded services	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)
Base revenue	251	247	250	252	255	258	256	262	2,032	254
Excluded services revenue	0	0	0	0	0	0	0	0	2	0
Total revenue	251	247	251	253	256	258	257	262	2,034	254
Annual change to Base Revenue	10.0%	-1.7%	1.4%	0.8%	1.3%	1.0%	-0.6%	2.1%	0	

Table A7: Southern

Southern										
£m 2009-10 prices	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**	**Average**
Totex										
Slow pot	127	130	139	154	166	177	181	189	1,265	158
Fast pot	190	171	160	156	148	138	123	112	1,197	150
Post-TIM totex allowance	317	301	299	310	314	315	305	300	2,462	308
Regulatory Asset Value (RAV)										
Opening asset value	2,874	2,858	2,842	2,848	2,868	2,892	2,914	2,927		
RAV additions (after disposals)	127	130	139	154	166	177	181	189	1,264	158
Depreciation	(143)	(146)	(134)	(134)	(143)	(155)	(168)	(184)	(1,206)	(151)
Closing asset value	2,858	2,842	2,848	2,868	2,892	2,914	2,927	2,933		
Final Proposals allowances										
Fast pot expenditure	190	171	160	156	148	138	123	112	1,197	150
Non-controllable opex	121	121	121	120	120	120	120	120	963	120
RAV depreciation	143	146	134	134	143	155	168	184	1,206	151
Return	121	120	120	121	122	123	123	124	974	122
Other	15	15	15	15	15	15	15	15	119	15
Tax allowance	-	-	41	41	42	42	41	43	250	31
Price Control Revenue										
Total costs	590	572	591	587	589	593	591	597	4,710	589
Less excluded services	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(4)	(0)
Base revenue	590	572	590	586	589	592	590	596	4,706	588
Excluded services revenue	0	0	0	1	1	1	1	1	4	0
Total revenue	590	572	591	587	589	593	591	597	4,710	589
Annual change to Base Revenue	12.8%	-3.0%	3.2%	-0.7%	0.4%	0.6%	-0.3%	1.0%	0	

Table A8: Wales & West

Wales & West £m 2009-10 prices	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Total	Average
Totex										
Slow pot	71	76	82	86	88	92	98	99	691	86
Fast pot	109	106	104	100	92	88	85	79	764	95
Post-TIM totex allowance	181	182	186	186	180	180	183	178	1,455	182
Regulatory Asset Value (RAV)										
Opening asset value	1,607	1,598	1,593	1,592	1,594	1,596	1,599	1,607		1,598
RAV additions (after disposals)	71	76	82	86	88	92	98	99	691	86
Depreciation	(80)	(81)	(83)	(84)	(86)	(88)	(90)	(92)	(684)	(85)
Closing asset value	1,598	1,593	1,592	1,594	1,596	1,599	1,607	1,614		1,599
Final Proposals allowances										
Fast pot expenditure	109	106	104	100	92	88	85	79	764	95
Non-controllable opex	60	60	60	60	60	60	60	60	481	60
RAV depreciation	80	81	83	84	86	88	90	92	684	85
Return	68	67	67	67	67	68	68	68	540	68
Other	8	8	7	7	7	7	7	7	60	7
Tax allowance	-	-	-	13	22	21	21	20	98	12
Price Control Revenue										
Total costs	324	322	321	332	336	333	331	327	2,626	328
Less excluded services	(1)	(0)	(0)	(0)	(0)	-	-	-	(2)	(0)
Base revenue	324	321	321	332	336	333	331	327	2,624	328
Excluded services revenue	1	0	0	0	0	-	-	-	2	0
Total revenue	324	322	321	332	336	333	331	327	2,626	328
Annual change to Base Revenue	1.4%	-0.7%	-0.2%	3.4%	1.1%	-0.9%	-0.4%	-1.3%	0	

Appendix 2 – Cost of debt index

Addressing a technical issue with the calculation of the index

1.1. In our discussions with the network companies and issue had been raised regarding the way in which the index is calculated. It was noted that the Bank of England uses the 'Fisher approximation' to derive breakeven inflation figures from Gilt market data. The Fisher approximation can be written as:

$$i = \pi - r$$

Where:

i is the estimate of breakeven inflation
π is the nominal yield on Gilts
r is the real yield on Index-Linked Gilts

1.2. A more accurate approach when comparing nominal and real yields is to use the full Fisher equation, which can be written as follows:

$$i = \frac{1 + \pi}{1 + r} - 1$$

1.3. Since it is more accurate, it has been our preference to use the Fisher equation when deflating the iBoxx index to arrive at an estimate of the real cost of debt.[51] It can be shown that, when both the nominal and real yields are positive (as has typically been the case historically), the Fisher approximation will overstate breakeven inflation compared to the full Fisher equation. The consequences of applying the Fisher equation when the breakeven inflation data has been derived from the Fisher approximation is to understate the real cost of debt. This is illustrated in table A2.1.

[51] See, for example, the illustration of the cost of debt index calculation that was issued with SHETL and SPTL's fast-track initial proposals: http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/Cost_of_debt_model.xlsx.

Table A2.1: Illustration of impact of Fisher equation

		Fisher approximation	Fisher equation
Yield on 10-year nominal gilts	i	3.40%	3.40%
Yield on 10-year index-linked gilts	r	1.00%	1.00%
10-year breakeven inflation	π	2.40%	2.38%
Average yield on iBoxx 10+ non-financials A and BBB indices		4.75%	4.75%
Estimated real cost of debt		2.29%	2.32%

1.4. In order to correct for the above issue, we propose that instead of using the Bank of England's published breakeven inflation figures, we will calculate them ourselves from the Bank's published nominal and real yields data, using the Fisher equation. We will apply this approach when setting the cost of debt for 2013-14, which will be published alongside the final proposals.